

Request for Bids Goods

(Two-Envelope Bidding Process)

Procurement of:

Supply, Installation and Commissioning of equipment
for C4IR at BCC

RFB No: EDGE-G13A

Project: Enhancing Digital Government and Economy (EDGE) Project

Purchaser: Bangladesh Computer Council (BCC)

Country: Bangladesh

Issued on: 29 October 2024

Standard Procurement Document

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PART 1 – Bidding Procedures

Unofficial Copy

Section I - Instructions to Bidders

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Section I - Instructions to Bidders

A. General

1. Scope of Bid

- 1.1 In connection with the Specific Procurement Notice, Request for Bids (RFB), specified **in the Bid Data Sheet (BDS)**, the Purchaser, as specified **in the BDS**, issues this bidding document for the supply of Goods and, if applicable, any Related Services incidental thereto, as specified in Section VII, Schedule of Requirements. The name, identification and number of lots (contracts) of this RFB are specified **in the BDS**.
- 1.2 Throughout this bidding document:
 - (a) the term “in writing” means communicated in written form (e.g. by mail, e-mail, fax, including, if **specified in the BDS**, distributed or received through the electronic-procurement system used by the Purchaser), with proof of receipt;
 - (b) if the context so requires, “singular” means “plural” and vice versa; and
 - (c) “Day” means calendar day, unless otherwise specified as “Business Day”. A Business Day is any day that is an official working day of the Borrower. It excludes the Borrower’s official public holidays.

2. Source of Funds

- 2.1 The Borrower or Recipient (hereinafter called “Borrower”) specified **in the BDS** has applied for or received financing (hereinafter called “funds”) from the International Bank for Reconstruction and Development or the International Development Association (hereinafter called “the Bank”) in an amount specified **in the BDS**, toward the project named **in the BDS**. The Borrower intends to apply a portion of the funds to eligible payments under the contract for which this bidding document is issued.
- 2.2 Payment by the Bank will be made only at the request of the Borrower and upon approval by the Bank in accordance with the terms and conditions of the Loan (or other financing) Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the loan account for the purpose of any payment to persons or entities, or for any import of goods, if such

payment or import is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan (or other financing) Agreement or have any claim to the proceeds of the Loan (or other financing).

3. Fraud and Corruption

- 3.1 The Bank requires compliance with the Bank's Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework, as set forth in Section VI, Fraud and Corruption.
- 3.2 In further pursuance of this policy, bidders shall permit and shall cause their agents (where declared or not), subcontractors, subconsultants, service providers, suppliers, and personnel, to permit the Bank to inspect all accounts, records and other documents relating to any initial selection process, prequalification process, bid submission, proposal submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.

4. Eligible Bidders

- 4.1 A Bidder may be a firm that is a private entity, a state-owned enterprise or institution (subject to ITB 4.6), or any combination of such entities in the form of a joint venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the Bidding process and, in the event the JV is awarded the Contract, during contract execution. Unless specified **in the BDS**, there is no limit on the number of members in a JV.
- 4.2 A Bidder shall not have a conflict of interest. Any Bidder found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this Bidding process, if the Bidder:

- (a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or
- (b) receives or has received any direct or indirect subsidy from another Bidder; or
- (c) has the same legal representative as another Bidder; or
- (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the Bid of another Bidder, or influence the decisions of the Purchaser regarding this Bidding process; or
- (e) or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the Bid; or
- (f) or any of its affiliates has been hired (or is proposed to be hired) by the Purchaser or Borrower for the Contract implementation; or
- (g) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS reference ITB 2.1 (the name of the project), that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or
- (h) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly involved in the preparation of the bidding document or specifications of the Contract, and/or the Bid evaluation process of such Contract; or (ii) would be involved in the implementation or supervision of such Contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Bank throughout the Bidding process and execution of the Contract.

4.3 A firm that is a Bidder (either individually or as a JV member) shall not participate in more than one Bid, except for permitted alternative Bids. This includes participation as a subcontractor. Such participation shall

result in the disqualification of all Bids in which the firm is involved. A firm that is not a Bidder or a JV member, may participate as a subcontractor in more than one Bid.

- 4.4 A Bidder may have the nationality of any country, subject to the restrictions pursuant to ITB 4.8. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed subcontractors or subconsultants for any part of the Contract including related Services.
- 4.5 A Bidder that has been sanctioned by the Bank, pursuant to the Bank's Anti-Corruption Guidelines, and in accordance with its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework as described in Section VI paragraph 2.2 d. shall be ineligible to be prequalified for, initially selected for, bid for, propose for, or be awarded a Bank-financed contract or benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall have determined. The list of debarred firms and individuals is available at the electronic address specified in the BDS.
- 4.6 Bidders that are state-owned enterprises or institutions in the Purchaser's Country may be eligible to compete and be awarded a Contract(s) only if they can establish, in a manner acceptable to the Bank, that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not under supervision of the Purchaser.
- 4.7 A Bidder shall not be under suspension from Bidding by the Purchaser as the result of the operation of a Bid-Securing Declaration or Proposal-Securing Declaration.
- 4.8 Firms and individuals may be ineligible if so indicated in Section V, Eligible Countries, and:
- (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country, provided that the Bank is satisfied that such exclusion does not preclude effective

competition for the supply of goods or the contracting of works or services required; or

- (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country.

4.9 A Bidder shall provide such documentary evidence of eligibility satisfactory to the Purchaser, as the Purchaser shall reasonably request.

4.10 A firm that is under a sanction of debarment by the Borrower from being awarded a contract is eligible to participate in this procurement, unless the Bank, at the Borrower's request, is satisfied that the debarment;

- (a) relates to fraud or corruption; and
- (b) followed a judicial or administrative proceeding that afforded the firm adequate due process.

5. Eligible Goods and Related Services

5.1 All the Goods and Related Services to be supplied under the Contract and financed by the Bank may have their origin in any country in accordance with Section V, Eligible Countries.

5.2 For purposes of this ITB, the term "goods" includes commodities, raw material, machinery, equipment, and industrial plants; and "related services" includes services such as insurance, installation, training, and initial maintenance.

5.3 The term "origin" means the country where the goods have been mined, grown, cultivated, produced, manufactured or processed; or, through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its components.

B. Contents of Request for Bids Document

6. Sections of Bidding Document

6.1 The bidding document consist of Parts 1, 2, and 3, which include all the sections indicated below, and should be read in conjunction with any addenda issued in accordance with ITB 8.

PART 1 Bidding Procedures

- Section I - Instructions to Bidders (ITB)
- Section II - Bidding Data Sheet (BDS)
- Section III - Evaluation and Qualification Criteria
- Section IV - Bidding Forms
- Section V - Eligible Countries
- Section VI - Fraud and Corruption

PART 2 Supply Requirements

- Section VII - Schedule of Requirements

PART 3 Contract

- Section VIII - General Conditions of Contract
- Section IX - Special Conditions of Contract
- Section X - Contract Forms

6.2 The Specific Procurement Notice - Request for Bids (RFB) issued by the Purchaser is not part of this bidding document.

6.3 Unless obtained directly from the Purchaser, the Purchaser is not responsible for the completeness of the document, responses to requests for clarification, the Minutes of the pre-Bid meeting (if any), or addenda to the bidding document in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Purchaser shall prevail.

6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding document and to furnish with its Bid all information or documentation as is required by the bidding document.

7. Clarification of the Bidding Document

7.1 A Bidder requiring any clarification of the bidding document shall contact the Purchaser in writing at the Purchaser's address specified **in the BDS**. The Purchaser will respond in writing to any request for clarification, provided that such request is received prior to the deadline for submission of Bids within a period specified **in the BDS**. The Purchaser shall forward copies of its response to all Bidders who have acquired the bidding document in accordance with ITB 6.3, including a description of the inquiry but without identifying its source. If so specified **in the BDS**, the

Purchaser shall also promptly publish its response at the web page identified **in the BDS**. Should the clarification result in changes to the essential elements of the bidding document, the Purchaser shall amend the bidding document following the procedure under ITB 8 and ITB 22.2.

- 8. Amendment of Bidding Document**
- 8.1 At any time prior to the deadline for submission of Bids, the Purchaser may amend the bidding document by issuing addenda.
- 8.2 Any addendum issued shall be part of the bidding document and shall be communicated in writing to all who have obtained the bidding document from the Purchaser in accordance with ITB 6.3. The Purchaser shall also promptly publish the addendum on the Purchaser’s web page in accordance with ITB 7.1.
- 8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their Bids, the Purchaser may, at its discretion, extend the deadline for the submission of Bids, pursuant to ITB 22.2.

C. Preparation of Bids

- 9. Cost of Bidding**
- 9.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Purchaser shall not be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.
- 10. Language of Bid**
- 10.1 The Bid, as well as all correspondence and documents relating to the Bid exchanged by the Bidder and the Purchaser, shall be written in the language specified **in the BDS**. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages into the language specified **in the BDS**, in which case, for purposes of interpretation of the Bid, such translation shall govern.
- 11. Documents comprising Bid**
- 11.1 The Bid shall comprise two Parts, namely the Technical Part and the Financial Part. These two Parts shall be submitted simultaneously in two separate sealed envelopes (two-envelope Bidding process). One envelope shall contain only information relating to the Technical Part and the other, only information relating

to the Financial Part. These two envelopes shall be enclosed in a separate sealed outer envelope marked “ORIGINAL BID”.

11.2 The **Technical Part** shall contain the following:

- (a) **Letter of Bid - Technical Part:** prepared in accordance with ITB 12;
- (b) **Bid Security or Bid-Securing Declaration:** in accordance with ITB 19.1;
- (c) **Alternative Bid - Technical Part:** if permissible in accordance with ITB 13, the Technical Part of any Alternative Bid;
- (d) **Authorization:** written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.3;
- (e) **Bidder’s Eligibility:** documentary evidence in accordance with ITB 17 establishing the Bidder’s eligibility to Bid;
- (f) **Qualifications:** documentary evidence in accordance with ITB 17 establishing the Bidder’s qualifications to perform the Contract if its Bid is accepted;
- (g) **Eligibility of Goods and Related Services:** documentary evidence in accordance with ITB 16, establishing the eligibility of the Goods and Related Services to be supplied by the Bidder;
- (h) **Conformity:** documentary evidence in accordance with ITB 16, that the Goods and Related Services conform to the bidding document;
- (i) any other document **required in the BDS.**

11.3 The **Financial Part** envelope shall contain the following:

- (a) **Letter of Bid – Financial Part:** prepared in accordance with ITB 12 and ITB 14;
- (b) **Price Schedules:** completed prepared in accordance with ITB 12 and ITB 14;

(c) **Alternative Bid - Financial Part;** if permissible in accordance with ITB 13, the Financial Part of any Alternative Bid;

(d) any other document **required in the BDS.**

11.4 The Technical Part shall not include any financial information related to the Bid price. Where material financial information related to the Bid price is contained in the Technical Part the Bid shall be declared non-responsive.

11.5 In addition to the requirements under ITB 11.2, Bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful Bid shall be signed by all members and submitted with the Bid, together with a copy of the proposed Agreement.

11.6 The Bidder shall furnish in the Letter of Bid information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.

12. Letters of Bid

12.1. The Bidder shall prepare the Letter of Bid – Technical Part, and Letter of Bid – Financial Part using the relevant forms furnished in Section IV, Bidding Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITB 20.3. All blank spaces shall be filled in with the information requested.

13. Alternative Bids

13.1. Unless otherwise **specified in the BDS**, Alternative Bids shall not be considered.

14. Bid prices and Discounts

14.1 The prices and discounts quoted by the Bidder in the Letter of Bid - Financial Part and in the Price Schedules shall conform to the requirements specified below.

14.2 All lots (contracts) and items must be listed and priced separately in the Price Schedules.

14.3 The price to be quoted in the Letter of Bid - Financial Part, in accordance with ITB 12.1 shall be the total price of the Bid, excluding any discounts offered.

14.4 The Bidder shall quote any discounts and indicate the methodology for their application in the Letter of Bid - Financial Part, in accordance with ITB 12.1.

- 14.5 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account, unless otherwise specified **in the BDS**. A Bid submitted with an adjustable price quotation shall be treated as nonresponsive and shall be rejected, pursuant to ITB 31. However, if in accordance with the BDS, prices quoted by the Bidder shall be subject to adjustment during the performance of the Contract, a Bid submitted with a fixed price quotation shall not be rejected, but the price adjustment shall be treated as zero.
- 14.6 If so specified in ITB 1.1, Bids are being invited for individual lots (contracts) or for any combination of lots (packages). Unless otherwise specified **in the BDS**, prices quoted shall correspond to 100% of the items specified for each lot and to 100% of the quantities specified for each item of a lot. Bidders wishing to offer discounts for the award of more than one Contract shall specify in their Bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package. **However, discounts that are conditional on the award of more than one lot will not be considered for bid evaluation purpose.**
- 14.7 The terms EXW, CIP, and other similar terms shall be governed by the rules prescribed in the current edition of Incoterms, published by the International Chamber of Commerce, as specified **in the BDS**.
- 14.8 Prices shall be quoted as specified in each Price Schedule included in Section IV, Bidding Forms. The disaggregation of price components is required solely for the purpose of facilitating the comparison of Bids by the Purchaser. This shall not in any way limit the Purchaser's right to contract on any of the terms offered. In quoting prices, the Bidder shall be free to use transportation through carriers registered in any eligible country, in accordance with Section V, Eligible Countries. Similarly, the Bidder may obtain insurance services from any eligible country in accordance with Section V, Eligible Countries. Prices shall be entered in the following manner:

- (a) For Goods manufactured in the Purchaser's Country:
 - (i) the price of the Goods quoted EXW (ex-works, ex-factory, ex warehouse, ex showroom, or off-the-shelf, as applicable), including all customs duties and sales and other taxes already paid or payable on the components and raw material used in the manufacture or assembly of the Goods;
 - (ii) any Purchaser's Country sales tax and other taxes which will be payable on the Goods if the Contract is awarded to the Bidder; and
 - (iii) the price for inland transportation, insurance, and other local services required to convey the Goods to their final destination (Project Site) specified **in the BDS**.
- (b) For Goods manufactured outside the Purchaser's Country, to be imported:
 - (i) the price of the Goods, quoted CIP named place of destination, in the Purchaser's Country, as specified **in the BDS**;
 - (ii) the price for inland transportation, insurance, and other local services required to convey the Goods from the named place of destination to their final destination (Project Site) specified **in the BDS**;
- (c) For Goods manufactured outside the Purchaser's Country, already imported:
 - (i) the price of the Goods, including the original import value of the Goods; plus any mark-up (or rebate); plus any other related local cost, and custom duties and other import taxes already paid or to be paid on the Goods already imported.
 - (ii) the custom duties and other import taxes already paid (need to be supported with documentary evidence) or to be paid on the Goods already imported;
 - (iii) the price of the Goods, obtained as the difference between (i) and (ii) above;

(iv) any Purchaser’s Country sales and other taxes which will be payable on the Goods if the Contract is awarded to the Bidder; and

(v) the price for inland transportation, insurance, and other local services required to convey the Goods to their final destination (Project Site) specified **in the BDS.**

(d) for Related Services, other than inland transportation and other services required to convey the Goods to their final destination, whenever such Related Services are specified in the Schedule of Requirements:

(i) the price of each item comprising the Related Services (inclusive of any applicable taxes).

15. Currencies of Bid and Payment

15.1 The currency(ies) of the Bid and the currency(ies) of payments shall be the same. The Bidder shall quote in the currency of the Purchaser’s Country the portion of the Bid price that corresponds to expenditures incurred in the currency of the Purchaser’s country, unless otherwise specified **in the BDS.**

15.2 The Bidder may express the Bid price in any currency. If the Bidder wishes to be paid in a combination of amounts in different currencies, it may quote its price accordingly but shall use no more than three foreign currencies in addition to the currency of the Purchaser’s Country.

16. Documents Establishing the Eligibility and Conformity of the Goods and Related Services

16.1 To establish the eligibility of the Goods and Related Services in accordance with ITB 5, Bidders shall complete the country of origin declarations in the Price Schedule Forms, included in Section IV, Bidding Forms.

16.2 To establish the conformity of the Goods and Related Services to the bidding document, the Bidder shall furnish as part of its Bid the documentary evidence that the Goods conform to the technical specifications and standards specified in Section VII, Schedule of Requirements.

16.3 The documentary evidence may be in the form of literature, drawings or data, and shall consist of a detailed item by item description of the essential

technical and performance characteristics of the Goods and Related Services, demonstrating substantial responsiveness of the Goods and Related Services to the technical specification, and if applicable, a statement of deviations and exceptions to the provisions of the Section VII, Schedule of Requirements.

16.4 The Bidder shall also furnish a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the Goods during the period specified **in the BDS** following commencement of the use of the goods by the Purchaser.

16.5 Standards for workmanship, process, material, and equipment, as well as references to brand names or catalogue numbers specified by the Purchaser in the Schedule of Requirements, are intended to be descriptive only and not restrictive. The Bidder may offer other standards of quality, brand names, and/or catalogue numbers, provided that it demonstrates, to the Purchaser's satisfaction, that the substitutions ensure substantial equivalence or are superior to those specified in the Section VII, Schedule of Requirements.

17. Documents Establishing the Eligibility and Qualifications of the Bidder

17.1 To establish Bidder's eligibility in accordance with ITB 4, Bidders shall complete the Letter of Bid – Technical Part, included in Section IV, Bidding Forms.

17.2 The documentary evidence of the Bidder's qualifications to perform the Contract, if its Bid is accepted, shall establish to the Purchaser's satisfaction:

- (a) that, if required **in the BDS**, a Bidder that does not manufacture or produce the Goods it offers to supply shall submit the Manufacturer's Authorization using the form included in Section IV, Bidding Forms to demonstrate that it has been duly authorized by the manufacturer or producer of the Goods to supply these Goods in the Purchaser's Country;
- (b) that, if required **in the BDS**, in case of a Bidder not doing business within the Purchaser's Country, the Bidder is or will be (if awarded the

Contract) represented by an Agent in the country equipped and able to carry out the Supplier's maintenance, repair and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications; and

- (c) that the Bidder meets each of the qualification criterion specified in Section III, Evaluation and Qualification Criteria.

18. Period of Validity of Bids

18.1. Bids shall remain valid until the date **specified in the BDS** or any extended date if amended by the Purchaser in accordance with ITB 8. A Bid that is not valid until the date **specified in the BDS**, or any extended date if amended by the Purchaser in accordance with ITB 8, shall be rejected by the Purchaser as nonresponsive.

18.2. In exceptional circumstances, prior to the expiry of the Bid validity, the Purchaser may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing. If a Bid Security is requested (in accordance with ITB 19), it shall also be extended for a corresponding period. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its Bid, except as provided in ITB 18.3.

18.3. If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial Bid validity, the Contract price shall be determined as follows:

- (a) In the case of fixed price contracts, the Contract price shall be the Bid price adjusted by the factor **specified in the BDS**.
- (b) In the case of adjustable price contracts, no adjustment shall be made.
- (c) In any case, Bid evaluation shall be based on the Bid price without taking into consideration the applicable correction from those indicated above.

19. Bid Security

19.1. The Bidder shall furnish, as part of the Technical Part of its Bid, either a Bid-Securing Declaration or a Bid Security, as specified **in the BDS**, in original form and, in the case of a Bid security, in the amount and currency specified **in the BDS**.

19.2. A Bid Securing Declaration shall use the form included in Section IV, Bidding Forms.

19.3. If a Bid Security is specified pursuant to ITB 19.1, the Bid security shall be a demand guarantee in any of the following forms at the Bidder's option:

- (a) an unconditional guarantee issued by a bank or non-bank financial institution (such as an insurance, bonding or surety company);
- (b) an irrevocable letter of credit;
- (c) a cashier's or certified check; or
- (d) another security **specified in the BDS**,

from a reputable source from an eligible country. If an unconditional guarantee is issued by a non-bank financial institution located outside the Purchaser's Country the issuing non-bank financial institution shall have a correspondent financial institution located in the Purchaser's Country to make it enforceable unless the Purchaser has agreed in writing, prior to Bid submission, that a correspondent financial institution is not required. In the case of a bank guarantee, the Bid security shall be submitted either using the Bid Security Form included in Section IV, Bidding Forms, or in another substantially similar format approved by the Purchaser prior to Bid submission. The Bid security shall be valid for twenty-eight (28) days beyond the original date of expiry of the Bid validity, or beyond any extended date if requested under ITB 18.2.

19.4. If a Bid Security is specified pursuant to ITB 19.1, any Bid not accompanied by a substantially responsive Bid Security shall be rejected by the Purchaser as non-responsive.

19.5. If a Bid Security is specified pursuant to ITB 19.1, the Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing the contract and furnishing the Performance Security pursuant to ITB 49.

19.6. The Bid Security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required performance security.

19.7. The Bid Security may be forfeited:

- (a) if a Bidder withdraws its Bid prior to the expiry date of Bid validity specified by the Bidder on the Letter of Bid or any extended date provided by the Bidder ; or
 - (b) if the successful Bidder fails to:
 - (i) sign the Contract in accordance with ITB 48; or
 - (ii) furnish a performance security in accordance with ITB 49.
- 19.8. The Bid Security or Bid-Securing Declaration of a JV must be in the name of the JV that submits the Bid. If the JV has not been legally constituted into a legally enforceable JV at the time of Bidding, the Bid security or Bid-Securing Declaration shall be in the names of all future members as named in the letter of intent referred to in ITB 4.1 and ITB 11.5.
- 19.9. If a Bid security is not required in the **BDS**, pursuant to ITB 19.1, and
- (a) if a Bidder withdraws its Bid during the period of Bid validity specified by the Bidder on the Letter of Bid, or any extended date provided by the Bidder, or
 - (b) if the successful Bidder fails to: sign the Contract in accordance with ITB 48; or furnish a performance security in accordance with ITB 49;
- the Borrower may, **if provided for in the BDS**, declare the Bidder ineligible to be awarded a contract by the Purchaser for a period of time **as stated in the BDS**.

20. Format and Signing of Bid

- 20.1 The Bidder shall prepare the Bid, in accordance with ITB 11 and ITB 21.
- 20.2 Bidders shall mark as “CONFIDENTIAL” information in their Bids which is confidential to their business. This may include proprietary information, trade secrets, or commercial or financially sensitive information.
- 20.3 The original and all copies of the Bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation **as specified in the BDS** and shall be attached to the Bid. The name and position held by each person signing the authorization must be typed or printed below the

signature. All pages of the Bid where entries or amendments have been made shall be signed or initialed by the person signing the Bid.

- 20.4 In case the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.
- 20.5 Any inter-lineation, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Bid.

D. Submission of Bids

21. Sealing and Marking of Bids

- 21.1 The Bidder shall deliver the Bid in two separate, sealed **envelopes** (the Technical Part and the Financial Part). These two envelopes shall be enclosed in a sealed outer envelope marked “ORIGINAL BID”.
- 21.2 In addition, the Bidder shall submit copies of the Bid in the number specified **in the BDS**. Copies of the Technical Part shall be placed in a separate sealed envelope marked “COPIES: TECHNICAL PART”. Copies of the Financial Part shall be placed in a separate sealed envelope marked “COPIES: FINANCIAL PART”. The Bidder shall place both of these envelopes in a separate, sealed outer envelope marked “BID COPIES”. In the event of any discrepancy between the original and the copies, the original shall prevail. If alternative Bids are permitted in accordance with ITB 13, the alternative Bids shall be submitted as follows: the original of the alternative Bid Technical Part shall be placed in a sealed envelope marked “ALTERNATIVE BID – TECHNICAL PART” and the Financial Part shall be placed in a sealed envelope marked “ALTERNATIVE BID – FINANCIAL PART” and these two separate sealed envelopes then enclosed within a sealed outer envelope marked “ALTERNATIVE BID – ORIGINAL”, the copies of the alternative Bid will be placed in separate sealed envelopes marked “ALTERNATIVE BID – COPIES OF TECHNICAL PART”, and “ALTERNATIVE BID – COPIES OF FINANCIAL PART” and enclosed in a separate sealed outer envelope marked “ALTERNATIVE BID - COPIES”.
- 21.3 The envelopes marked “ORIGINAL BID” and “BID COPIES” (and, if appropriate, a third envelope marked

“ALTERNATIVE BID”) shall be enclosed in a separate sealed outer envelope for submission to the Purchaser.

- 21.4 All inner and outer envelopes, shall:
- (a) bear the name and address of the Bidder;
 - (b) be addressed to the Purchaser in accordance with ITB 22.1;
 - (c) bear the specific identification of this Bidding process indicated in ITB 1.1; and
 - (d) bear a warning not to open before the time and date for Bid opening.
- 21.5 If all envelopes are not sealed and marked as required, the Purchaser will assume no responsibility for the misplacement or premature opening of the Bid.

22. Deadline for Submission of Bids

- 22.1. Bids must be received by the Purchaser at the address and no later than the date and time specified **in the BDS. When so specified in the BDS**, Bidders shall have the option of submitting their Bids electronically. Bidders submitting Bids electronically shall follow the electronic Bid submission procedures **specified in the BDS**.
- 22.2. The Purchaser may, at its discretion, extend the deadline for the submission of Bids by amending the bidding document in accordance with ITB 8, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.

23. Late Bids

- 23.1. The Purchaser shall not consider any Bid that arrives after the deadline for submission of Bids, in accordance with ITB 23. Any Bid received by the Purchaser after the deadline for submission of Bids shall be declared late, rejected, and returned unopened to the Bidder.

24. Withdrawal, Substitution, and Modification of Bids

- 24.1. A Bidder may withdraw, substitute, or modify its Bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization (the power of attorney) in accordance with ITB 20.3, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the Bid must accompany the respective written notice. All notices must be:

- (a) prepared and submitted in accordance with ITB 20 and ITB 21 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked “WITHDRAWAL,” “SUBSTITUTION,” or “MODIFICATION;” and
 - (b) received by the Purchaser prior to the deadline prescribed for submission of Bids, in accordance with ITB 22.
- 24.2. Bids requested to be withdrawn in accordance with ITB 24.1 shall be returned unopened to the Bidders.
- 24.3. No Bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of Bids and the expiration of the period of Bid validity specified by the Bidder on the Letter of Bid -Technical Part and repeated in the Letter of Bid - Financial Part, or any extension thereof.

E. Public Opening of Technical Parts of Bids

25. Public Opening of Technical Parts of Bids

- 25.1. Except as in the cases specified in ITB 23 and ITB 24.2, the Purchaser shall, at this Bid opening, publicly open and read out, in accordance with this ITB, all bids received by the deadline at the date, time and place specified **in the BDS** in the presence of Bidders’ designated representatives and anyone who chooses to attend. Any specific electronic Bid opening procedures required if electronic Bidding is permitted in accordance with ITB 22.1, shall be as specified **in the BDS**.
- 25.2. First, the written notice of withdrawal in the envelopes marked “WITHDRAWAL” shall be opened and read out and the envelope with the corresponding Bid shall not be opened, but returned to the Bidder. If the withdrawal envelope does not contain a copy of the “power of attorney” confirming the signature as a person duly authorized to sign on behalf of the Bidder, the corresponding Bid will be opened. No Bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at Bid opening.
- 25.3. Next, envelopes marked “SUBSTITUTION” shall be opened and read out and exchanged with the corresponding Bid being substituted, and the

substituted Bid shall not be opened, but returned to the Bidder. No Bid substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at Bid opening.

- 25.4. Next, envelopes marked “MODIFICATION” shall be opened and read out with the corresponding Bid. No Bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Bid opening. Only Bids that are opened and read out at Bid opening shall be considered further.
- 25.5. Next, all other envelopes marked “TECHNICAL PART” shall be opened one at a time. All envelopes marked “FINANCIAL PART” shall remain sealed, and kept by the Purchaser in safe custody until they are opened, at a later public opening, following the evaluation of the Technical Part of the Bids. On opening the envelopes marked “TECHNICAL PART” the Purchaser shall read out: the name of the Bidder and whether there is a modification; and Alternative Bid the presence or absence of a Bid Security, if required and any other details as the Purchaser may consider appropriate.
- 25.6. Only Technical Parts of Bids and Alternative Bid - Technical Parts that are read out at Bid opening shall be considered further in the evaluation. The Letter of Bid – Technical Part and the separate sealed envelope marked “FINANCIAL PART” are to be initialed by representatives of the Purchaser attending Bid opening in the manner specified **in the BDS**.
- 25.7. At the Bid opening the Purchaser shall neither discuss the merits of any Bid nor reject any Bid (except for late Bids, in accordance with ITB 23.1).
- 25.8. Following the opening of the Technical Parts of the Bid the Purchaser shall prepare a record that shall include, as a minimum:
 - (a) the name of the Bidder and whether there is a withdrawal, substitution, or modification;
 - (b) the presence or absence of a duly sealed envelope marked “FINANCIAL PART”;
 - (c) the presence or absence of a Bid Security or Bid-Securing Declaration; and

(d) if applicable, any Alternative Bid - Technical Part;

25.9. The Bidders' representatives who are present shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders.

F. Evaluation of Bids - General Provisions

26. Confidentiality

26.1 Information relating to the evaluation of the Technical Part shall not be disclosed to Bidders or any other persons not officially concerned with the Bidding process until the notification of evaluation of the Technical Part in accordance with ITB 33. Information relating to the evaluation of Financial Part, the evaluation of combined Technical Part and Financial Part, and recommendation of contract award shall not be disclosed to Bidders or any other persons not officially concerned with the RFB process until the Notification of Intention to Award the Contract is transmitted to Bidders in accordance with ITB 43.

26.2 Any effort by a Bidder to influence the Purchaser in the evaluation or contract award decisions may result in the rejection of its Bid.

26.3 Notwithstanding ITB 26.2, from the time of Bid opening to the time of Contract Award, if any Bidder wishes to contact the Purchaser on any matter related to the Bidding process, it should do so in writing.

27. Clarification of Bids

27.1 To assist in the examination, evaluation, comparison of the Bids, and qualification of the Bidders, the Purchaser may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder in respect to its Bid and that is not in response to a request by the Purchaser shall not be considered. The Purchaser's request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease, in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Purchaser in the Evaluation of the Bids, in accordance with ITB 35.

27.2 If a Bidder does not provide clarifications of its Bid by the date and time set in the Purchaser’s request for clarification, its Bid may be rejected.

**28. Deviations,
Reservations, and
Omissions**

28.1 During the evaluation of Bids, the following definitions apply:

- (a) “Deviation” is a departure from the requirements specified in the bidding document;
- (b) “Reservation” is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the bidding document; and

28.2 “Omission” is the failure to submit part or all of the information or documentation required in the bidding document.

**29. Nonconformities,
Errors and Omissions**

29.1 Provided that a Bid is substantially responsive, the Purchaser may waive any nonconformities in the Bid.

29.2 Provided that a Bid is substantially responsive, the Purchaser may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the Bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.

G. Evaluation of Technical Parts of Bids

**30. Evaluation of Technical
Parts**

30.1 In evaluating the Technical Parts of each Bid, the Purchaser shall use the criteria and methodologies listed in ITB 31, ITB 32, the BDS, if applicable, and Section III, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall be permitted.

**31. Determination of
Responsiveness**

31.1 The Purchaser’s determination of a Bid’s responsiveness is to be based on the contents of the Bid itself, as defined in ITB 11. A substantially responsive Bid is one that meets the requirements of the bidding document without material deviation, reservation, or

omission. A material deviation, reservation, or omission is one that:

- (a) if accepted, would:
 - (i) affect in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or
 - (ii) limit in any substantial way, inconsistent with the bidding document, the Purchaser's rights or the Bidder's obligations under the Contract; or
- (b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive Bids.

31.2 The Purchaser shall examine the technical aspects of the Bid submitted in accordance with ITB 16 and ITB 17, in particular, to confirm that all requirements of Section VII, Schedule of Requirements have been met without any material deviation or reservation, or omission.

31.3 If a Bid is not substantially responsive to the requirements of bidding document, it shall be rejected by the Purchaser and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

32. Qualification of the Bidders and Detailed Evaluation of the Technical Part

32.1 The Purchaser shall determine, to its satisfaction, whether all eligible Bidders, whose Bids have been determined to be substantially responsive to the bidding document, meet the Qualification Criteria specified in Section III, Evaluation and Qualification Criteria.

32.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17. The determination shall not take into consideration the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, subcontractors (other than specialized subcontractors if permitted in the bidding document), or any other firm different from the Bidder.

32.3 Prior to Contract award, the Purchaser will verify that the successful Bidder (including each member of a JV) is not disqualified by the Bank due to noncompliance with contractual SEA/SH prevention and response obligations. The Purchaser will conduct the same

verification for each subcontractor proposed by the successful Bidder. If any proposed subcontractor does not meet the requirement, the Purchaser will require the Bidder to propose a replacement subcontractor.

- 32.4 Only substantially responsive bids submitted by eligible and qualified bidders shall proceed to the detailed technical evaluation to assess adequacy of the Technical Part followed by evaluation applying technical factors/subfactors and corresponding scores as specified in the BDS.

H. Notification of Evaluation of Technical Parts and Public Opening of Financial Parts of Bids

33. Notification of Evaluation of Technical Parts and Public Opening of Financial Parts

33.1 Following the completion of the evaluation of the Technical Parts of the Bids, and the Bank has issued its no objection (if applicable), the Purchaser shall notify in writing those Bidders who have failed to meet the Qualification Criteria and/or whose Bids were considered non-responsive to the requirements in the bidding document, advising them of the following information:

- (a) the grounds on which their Technical Part of Bid failed to meet the requirements of the bidding document;
- (b) their envelope marked “FINANCIAL PART” will be returned to them unopened after the completion of the bid evaluation process and the signing of the Contract;
- (c) notify them of the date, time and location of the public opening of the envelopes marked “FINANCIAL PART”.

33.2 The Purchaser shall, simultaneously, notify in writing those Bidders whose Technical Parts have been evaluated as substantially responsive to the bidding document and met the Qualification Criteria, advising them of the following information:

- (a) their Bid has been evaluated as substantially responsive to the bidding document and met the Qualification Criteria; and
- (b) their envelope marked “FINANCIAL PART” will be opened at the public opening of Financial Parts;
- (c) notify them of the date, time and location of the public opening of the envelopes marked “FINANCIAL PART”.

33.3 The opening date shall be not less than ten (10) Business Days from the date of notification of the results of the technical evaluation, specified in ITB 33.1 and 33.2. However, if the Purchaser receives a complaint on the results of the technical evaluation within the ten (10) Business Days, the opening date shall be subject to ITB 48.1. The Financial Part of the Bid shall be opened publicly in the presence of Bidders’ designated representatives and anyone who chooses to attend.

33.4 At this public opening the Financial Parts will be opened by the Purchaser in the presence of Bidders, or their designated representatives and anyone else who chooses to attend. Bidders who met the Qualification Criteria and whose Bids were evaluated as substantially responsive will have their envelopes marked “FINANCIAL PART” opened at the second public opening. Each of these envelopes marked “FINANCIAL PART” shall be inspected to confirm that they have remained sealed and unopened. These envelopes shall then be opened by the Purchaser. The Purchaser shall read out the names of each Bidder, the technical score and the total Bid prices, per lot (contract) if applicable, including any discounts and Alternative Bid - Financial Part, and any other details as the Purchaser may consider appropriate.

33.5 Only envelopes of Financial Part of Bids, Financial Parts of Alternative Bids and discounts that are opened and read out at Bid opening shall be considered further for evaluation. The Letter of Bid - Financial Part and the Price Schedules are to be initialed by a representative of the Purchaser attending the Bid opening in the manner specified **in the BDS**.

33.6 The Purchaser shall neither discuss the merits of any Bid nor reject any envelopes marked “FINANCIAL PART”.

- 33.7 The Purchaser shall prepare a record of the Financial Part of the Bid opening that shall include, as a minimum:
- (a) the name of the Bidder whose Financial Part was opened;
 - (b) the Bid price, per lot (contract) if applicable, including any discounts,
 - (c) if applicable, any Alternative Bid - Financial Part.
- 33.8 The Bidders whose envelopes marked ‘FINANCIAL PART’ have been opened or their representatives who are present shall be requested to sign the record. The omission of a Bidder’s signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders.

I. Evaluation of Financial Parts of Bids

34. Evaluation of Financial Parts

- 34.1 Provided that a Bid is substantially responsive, the Purchaser shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component, by adding the average price of the item or component quoted by substantially responsive Bidders. If the price of the item or component cannot be derived from the price of other substantially responsive Bids, the Purchaser shall use its best estimate.
- 34.2 To evaluate the Financial Part of each Bid, the Purchaser shall consider the following:

- (a) evaluation will be done for Items or Lots (contracts), as specified **in the BDS**; and the Bid Price as quoted in accordance with ITB 14;
 - (b) price adjustment for correction of arithmetic errors in accordance with ITB 35.1;
 - (c) price adjustment due to discounts offered in accordance with ITB 14.4;
 - (d) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITB 36;
 - (e) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 34.1; and
 - (f) the additional evaluation factors specified in Section III, Evaluation and Qualification Criteria.
- 34.3 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in Bid evaluation.
- 34.4 If this bidding document allows Bidders to quote separate prices for different lots (contracts), each lot will be evaluated separately to determine the Most Advantageous Bid using the methodology specified in Section III, Evaluation and Qualification Criteria. **Discounts that are conditional on the award of more than one lot or slice shall not be considered for Bid evaluation.**
- 34.5 The Purchaser's evaluation of a Bid will exclude and not take into account:
- (a) in the case of Goods manufactured in the Purchaser's Country, sales and other similar taxes, which will be payable on the goods if a contract is awarded to the Bidder;
 - (b) in the case of Goods manufactured outside the Purchaser's Country, already imported or to be imported, customs duties and other import taxes levied on the imported Good, sales and other similar taxes, which will be payable on the Goods if the contract is awarded to the Bidder;

- (c) any allowance for price adjustment during the period of execution of the contract, if provided in the Bid.

34.6 The Purchaser's evaluation of a Bid may require the consideration of other factors, in addition to the Bid price quoted in accordance with ITB 14. These factors may be related to the characteristics, performance, and terms and conditions of purchase of the Goods and Related Services. The effect of the factors selected, if any, shall be expressed in monetary terms to facilitate comparison of Bids, unless otherwise specified **in the BDS** from amongst those set out in Section III, Evaluation and Qualification Criteria. The criteria and methodologies to be used shall be as specified in ITB 34.2 (f).

35. Correction of Arithmetic Errors

of 35.1 In evaluating the Financial Part of each Bid, the Purchaser shall correct arithmetic errors on the following basis:

- (a) if there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected;
- (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

35.2 Bidders shall be requested to accept correction of arithmetic errors. Failure to accept the correction in accordance with ITB 35.1, shall result in the rejection of the Bid.

36. Conversion to Single Currency

36.1 For evaluation and comparison purposes, the currency(ies) of the Bids shall be converted in a single currency as specified **in the BDS**.

- 37. Margin of Preference** 37.1 Unless otherwise specified **in the BDS**, a margin of preference shall not apply.
- 38. Comparison of Financial Parts** 38.1 The Purchaser shall compare the evaluated costs of the Bids to determine the Bid that has the lowest evaluated cost. The comparison shall be on the basis of CIP (place of final destination) prices for imported goods and EXW prices, plus cost of inland transportation and insurance to place of destination, for goods manufactured within the Borrower’s country, together with prices for any required installation, training, commissioning and other services. The evaluation of prices shall not take into account custom duties and other taxes levied on imported goods quoted CIP and sales and similar taxes levied in connection with the sale or delivery of goods.
- 39. Abnormally Low Bids** 39.1 An Abnormally Low Bid is one where the Bid price, in combination with other elements of the Bid, appears so low that it raises material concerns with the Purchaser as to the capability of the Bidder to perform the Contract for the offered Bid Price.
- 39.2 In the event of identification of a potentially Abnormally Low Bid, the Purchaser shall seek written clarification from the Bidder, including a detailed price analyses of its Bid price in relation to the subject matter of the contract, scope, delivery schedule, allocation of risks and responsibilities and any other requirements of the bidding document.
- 39.3 After evaluation of the price analyses, in the event that the Purchaser determines that the Bidder has failed to demonstrate its capability to perform the contract for the offered Bid price, the Purchaser shall reject the Bid.

J. Evaluation of Combined Technical and Financial Parts, Most Advantageous Bid and Notification of Intention to Award

- 40. Evaluation of combined Technical and Financial Parts** 40.1 The Purchaser’s evaluation of responsive Bids will take into account technical factors, in addition to cost factors in accordance with Section III Evaluation and Qualification Criteria. The weight to be assigned for the Technical factors and cost is specified **in the BDS**. The Purchaser will rank the Bids based on the evaluated Bid score (B).

- 40.2 The Purchaser will determine the Most Advantageous Bid. The Most Advantageous Bid is the Bid of the Bidder that meets the Qualification Criteria and whose Bid has been determined to be substantially responsive to the Bidding document and is the Bid with the highest combined technical and financial score.
- 41. Purchaser’s Right to Accept Any Bid, and to Reject Any or All Bids**
- 41.1 The Purchaser reserves the right to accept or reject any Bid, and to annul the Bidding process and reject all Bids at any time prior to Contract Award, without thereby incurring any liability to Bidders. In case of annulment, all Bids submitted and specifically, Bid securities, shall be promptly returned to the Bidders.
- 42. Standstill Period**
- 42.1 The Contract shall not be awarded earlier than the expiry of the Standstill Period. The Standstill Period shall be ten (10) Business Days unless extended in accordance with ITB 47. The Standstill Period commences the day after the date the Purchaser has transmitted to each Bidder the Notification of Intention to Award the Contract. Where only one Bid is submitted, or if this contract is in response to an emergency situation recognized by the Bank, the Standstill Period shall not apply.
- 43. Notification of Intention to Award**
- 43.1 The Purchaser shall send to each Bidder (that has not already been notified that it has been unsuccessful) the Notification of Intention to Award the Contract to the successful Bidder. The Notification of Intention to Award shall contain, at a minimum, the following information:
- (a) the name and address of the Bidder submitting the successful Bid;
 - (b) the Contract price of the successful Bid;
 - (c) the total combined score of the successful Bidder;
 - (d) the names of all Bidders who submitted Bids, and their Bid prices as readout, and as evaluated and technical scores;
 - (e) a statement of the reason(s) the Bid (of the unsuccessful Bidder to whom the notification is addressed) was unsuccessful;
 - (f) the expiry date of the Standstill Period;

- (g) instructions on how to request a debriefing and/or submit a complaint during the standstill period.

K. Award of Contract

44. Award Criteria

- 44.1 Subject to ITB 41, the Purchaser shall award the Contract to the successful Bidder. This is the Bidder whose Bid has been determined to be the Most Advantageous Bid as specified in ITB 40.

45. Purchaser's Right to Vary Quantities at Time of Award

- 45.1 At the time the Contract is awarded, the Purchaser reserves the right to increase or decrease the quantity of Goods and Related Services originally specified in Section VII, Schedule of Requirements, provided this does not exceed the percentages **specified in the BDS**, and without any change in the unit prices or other terms and conditions of the Bid and the bidding document.

46. Notification of Award

- 46.1 Prior to the date of expiry of the Bid validity and upon expiry of the Standstill Period, specified in ITB 42.1 or any extension thereof, and upon satisfactorily addressing any complaint that has been filed within the Standstill Period, the Purchaser shall notify the successful Bidder, in writing, that its Bid has been accepted. The notification of award (hereinafter and in the Contract Forms called the "Letter of Acceptance") shall specify the sum that the Purchaser will pay the Supplier in consideration of the execution of the Contract (hereinafter and in the Conditions of Contract and Contract Forms called "the Contract Price").
- 46.2 Within ten (10) Business Days after the date of transmission of the Letter of Acceptance, the Purchaser shall publish the Contract Award Notice which shall contain, at a minimum, the following information:
 - (a) name and address of the Purchaser;
 - (b) name and reference number of the contract being awarded, and the selection method used;
 - (c) names of all Bidders that submitted Bids, and their Bid prices as read out at Bid opening, and as evaluated;
 - (d) names of all Bidders whose Bids were rejected either as nonresponsive or as not meeting

qualification criteria, or were not evaluated, with the reasons therefor;

(e) the name of the successful Bidder, the final total contract price, the contract duration and a summary of its scope; and

(f) successful Bidder's Beneficial Ownership Disclosure Form.

46.3 The Contract Award Notice shall be published on the Purchaser's website with free access if available, or in at least one newspaper of national circulation in the Purchaser's Country, or in the official gazette. The Purchaser shall also publish the contract award notice in UNDB online.

46.4 Until a formal Contract is prepared and executed, the Letter of Acceptance shall constitute a binding Contract.

47. Debriefing by the Purchaser

47.1 On receipt of the Purchaser's Notification of Intention to Award referred to in ITB 43.1, an unsuccessful Bidder has three (3) Business Days to make a written request to the Purchaser for a debriefing. The Purchaser shall provide a debriefing to all unsuccessful Bidders whose request is received within this deadline.

47.2 Where a request for debriefing is received within the deadline, the Purchaser shall provide a debriefing within five (5) Business Days, unless the Purchaser decides, for justifiable reasons, to provide the debriefing outside this timeframe. In that case, the standstill period shall automatically be extended until five (5) Business Days after such debriefing is provided. If more than one debriefing is so delayed, the standstill period shall not end earlier than five (5) Business Days after the last debriefing takes place. The Purchaser shall promptly inform, by the quickest means available, all Bidders of the extended standstill period

47.3 Where a request for debriefing is received by the Purchaser later than the three (3) Business Day deadline, the Purchaser should provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of Public Notice of Award of contract. Requests for debriefing received outside the three (3)

day deadline shall not lead to extension of the standstill period.

- 47.4 Debriefings of unsuccessful Bidders may be done in writing or verbally. The Bidders shall bear their own costs of attending such a debriefing meeting.

48. Signing of Contract

- 48.1 The Purchaser shall send to the successful Bidder the Letter of Acceptance including the Contract Agreement, and a request to submit the Beneficial Ownership Disclosure Form providing additional information on its beneficial ownership. The Beneficial Ownership Disclosure Form shall be submitted within eight (8) Business Days of receiving this request.

- 48.2 The successful Bidder shall sign, date and return to the Purchaser, the Contract Agreement within twenty-eight (28) days of its receipt.

- 48.3 Notwithstanding ITB 48.2 above, in case signing of the Contract Agreement is prevented by any export restrictions attributable to the Purchaser, to the country of the Purchaser, or to the use of the products/goods, systems or services to be supplied, where such export restrictions arise from trade regulations from a country supplying those products/goods, systems or services, the Bidder shall not be bound by its Bid, always provided however, that the Bidder can demonstrate to the satisfaction of the Purchaser and of the Bank that signing of the Contract Agreement has not been prevented by any lack of diligence on the part of the Bidder in completing any formalities, including applying for permits, authorizations and licenses necessary for the export of the products/goods, systems or services under the terms of the Contract.

49. Performance Security

- 49.1 Within twenty-eight (28) days of the receipt of the Letter of Acceptance from the Purchaser, the successful Bidder, if required, shall furnish the Performance Security in accordance with the GCC 18 using for that purpose the Performance Security Form included in Section X, Contract Forms, or another Form acceptable to the Purchaser. If the Performance Security furnished by the successful Bidder is in the form of a bond, it shall be issued by a bonding or insurance company that has been determined by the successful Bidder to be acceptable to the Purchaser. A foreign institution providing a bond

shall have a correspondent financial institution located in the Purchaser's Country, unless the Purchaser has agreed in writing that a correspondent financial institution is not required.

49.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event the Purchaser may award the Contract to the Bidder offering the Most Advantageous Bid.

50. Procurement Related Complaint

50.1 The procedures for making a Procurement-related Complaint are as specified in the BDS.

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Section II - Bid Data Sheet (BDS)

The following specific data for the Goods to be procured shall complement, supplement, and/or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

ITB Reference	A. General
ITB 1.1	<p>The reference number of the Request for Bids (RFB) is: EDGE-G13A</p> <p>The Purchaser is: Bangladesh Computer Council (BCC)</p> <p>Represented by Project Director, Enhancing Digital Government and Economy (EDGE) Project</p> <p>The name of the RFB is: Supply, Installation and Commissioning of equipment for C4IR</p> <p>The number and identification of lots (contracts) comprising this RFB is:</p> <p>Lot-1: Supply, Installation and Commissioning of Computational Equipment for C4IR at BCC</p> <p>Lot-2: Supply, Installation and Commissioning of Robotic Equipment for C4IR at BCC</p> <p>Lot- 3: Supply, Installation and Commissioning of IoT, Drone and Advance Equipment for C4IR at BCC.</p> <p>Bidders can quote for one or more than one lot. If more than one lot is quoted, the bidder must meet the cumulative specific experience, and resources as described in Evaluation and Qualifications Criteria under Section III.</p>
ITB 1.2(a)	<p>Electronic Procurement shall not be applicable to this procurement</p> <p>Electronic-Procurement System</p> <p>The Purchaser shall use the following electronic-procurement system to manage this Bidding process: not applicable.</p> <p>The electronic-procurement system shall be used to manage the following aspects of the Bidding process: not applicable.</p>
ITB 2.1	<p>The Borrower is: The People’s Republic of Bangladesh</p> <p>Loan or Financing Agreement amount: US\$ 235.00 Million</p> <p>The name of the Project is: Enhancing Digital Government and Economy (EDGE) Project</p>

ITB 4.1	Maximum number of members in the Joint Venture (JV) shall be Four (04).
ITB 4.5	A list of debarred firms and individuals is available on the Bank's external website: http://www.worldbank.org/debarr .
B. Contents of Bidding Document	
ITB 7.1	<p>For <u>Clarification of Bid purposes</u> only, the Purchaser's address is: Attention: Project Director Address: Youth Tower (Level-5), 822/2, Rokeya Sarani, Dhaka-1216, Bangladesh Telephone: +88 02 4100174 Facsimile number: +88-02-55006791 Electronic mail address: piu.edge@bcc.gov.bd and copy pd.edge@bcc.gov.bd</p> <p>Requests for clarification should be received by the Purchaser no later than: 14 days from publication of Request for Bids.</p> <p>Web page: www.bcc.gov.bd</p> <p>The bidder is requested, as far as possible, to submit any questions in writing, to reach the Purchaser not later than one week before the meeting.</p> <p>The Pre-bid meeting shall take place at the following date, time and place: Date: 20 November 2024 Time: 11.00 hours Bangladesh Standard Time (BST= GMT + 6:00 hours). Address: Youth Tower (Level-5), 822/2, Rokeya Sarani, Dhaka-1216, Bangladesh.</p>
C. Preparation of Bids	
ITB 10.1	<p>The language of the Bid is: English.</p> <p>All correspondence exchange shall be in English language.</p> <p>Language for translation of supporting documents and printed literature is English.</p>
ITB 11.2 (i) & 11.3 (d)	<p>The Bidder shall submit the following additional documents in its Bid: <i>Factory test report of the supplied goods as per Schedule of Requirements.</i></p>
ITB 13.1	Alternative Bids shall not be considered.

ITB 14.5	The prices quoted by the Bidder <i>shall not</i> be subject to adjustment during the performance of the Contract.
ITB 14.6	Prices quoted for each lot (contract) shall correspond to 100% percent of the items specified for each lot (contract). Prices quoted for each item of a lot shall correspond to 100% percent of the quantities specified for this item of a lot.
ITB 14.7	The Incoterms edition is: Incoterms 2020 .
ITB 14.8 (a)(iii), (b)(ii) and (c)(v)	Final Destination (Project Site): Enhancing Digital Government and Economy (EDGE) Project Bangladesh Computer Council (BCC), 7 th Floor, ICT Tower, Plot # E-14/X, Agargaon, Sher-e-Bangla Nagar, Dhaka – 1207, Bangladesh. Customs duties and Value Added Taxes (CD-VAT) of the imported Goods under the Contract (incurred at the port of entry) will be paid by the Purchaser. However, customs formalities including appointment of, and payment to, Clearing and Forwarding (C&F) Agent shall be done by the Supplier. Port dues and all other charges shall be borne by the Supplier. The Supplier shall send the CD-VAT Assessment Report (Assessment Notice) of Customs Authorities to the Purchaser. The Purchaser will pay the assessed amount (CD -VAT) to the Government within 2 (two) weeks from received of assessment report. The Supplier shall submit the supporting documents including appointment of, and payment to, Clearing and Forwarding (C&F) Agent and the Purchaser will reimburse the same, within 30 days.
ITB 14.8 (b)(i)	Place of Destination: Enhancing Digital Government and Economy (EDGE) Project Bangladesh Computer Council (BCC), 7 th Floor, ICT Tower, Plot # E-14/X, Agargaon, Sher-e-Bangla Nagar, Dhaka – 1207, Bangladesh.
ITB 15.1	The Bidder is required to quote in the currency of the Purchaser's Country the portion of the Bid price that corresponds to expenditures incurred in that currency.
ITB 16.4	Period of time the Goods are expected to be functioning (for the purpose of spare parts): Not Applicable .
ITB 17.2 (a)	Manufacturer's authorization is: required as follows: Lot-1: for the items no. 2, 4, 10, 18, 19, & 20 listed in Section VII - Schedule of Requirements.

	<p>Lot-2: for the items no. 23, 24, & 25 listed in Section VII - Schedule of Requirements.</p> <p>Lot-3: for all the items no. 57 to 80 listed in Section VII - Schedule of Requirements.</p>
ITB 17.2 (b)	After sales service is: required.
ITB 18.1	The Bid shall be valid until: 180 days from the date of bid submission.
ITB 18.3 (a)	The Bid price shall be adjusted by the following factor(s): Not Applicable.
ITB 19.1	<p>A Bid Security shall be required.</p> <p>For Lot-1: The amount and currency of the Bid Security shall be United States Dollar (US\$) 12,400 (US\$ Twelve Thousand Four Hundred only) or Bangladesh Taka (BDT) 1,463,200 (BDT One Million Four Hundred Sixty-Three Thousand Two Hundred Only).</p> <p>For Lot-2: The amount and currency of the Bid Security shall be United States Dollar (US\$) 17,000 (US\$ Seventeen Thousand only) or Bangladesh Taka (BDT) 2,006,000 (BDT Two Million Six Thousand Only).</p> <p>For Lot-3: The amount and currency of the Bid Security shall be United States Dollar (US\$) 14,500 (US\$ Fourteen Thousand Five Hundred only) or Bangladesh Taka (BDT) 1,711,000 (BDT One Million Seven Hundred Eleven Thousand Only). Bid Security shall be issued by an internationally reputable Bank or Financial Institution. If an unconditional guarantee is issued by a Financial Institution located outside the Purchaser's Country, the issuing Financial Institution shall have a correspondent financial institution located in the Purchaser's Country to make security enforceable.</p> <p>Bid Security shall be submitted using the Bid Security Form included in Section IV.</p> <p>The Bidder shall furnish the Bid Security in favour of: Project Director, Enhancing Digital Government and Economy (EDGE) Project.</p> <p>Also, Bidders have the option of submitting one Bid Security for all lots (for the combined total amount of all lots) for which Bids have been submitted, however if the amount of Bid Security is less than the total required amount, the Purchaser will determine for which lot or lots the Bid Security amount shall be applied.</p>
ITB 19.3 (d)	Other types of acceptable securities: None.
ITB 19.9	Not Applicable.

ITB 20.3	<p>The written confirmation of authorization to sign on behalf of the Bidder shall consist of:</p> <p>(a) In case of bid signed by the Bidder’s Director, Manager or other Officer, whose authority to commit the Bidder is granted by the Company Charter, Articles of Association, or equivalent statutory document: an extract from the Trade License indicating the name, position and authorization of bid’s signatory; or a copy of the Company Charter (or equivalent statutory document), accompanied by a copy of Resolution, Order, Minutes of Board Meeting, or equivalent document evidencing appointment of Bid’s signatory to the position in question.</p> <p>(b) In case of Bid signed by any person whose authority to commit the Bidder is not granted by the Company Charter, Articles of Association, or equivalent statutory document then the person shall have an appropriate Power of Attorney issued on Bidder’s letterhead.</p> <p>(c) In case the Bidder authorizes a person who is not the payroll employee of the Bidder, the Bidder and the authorized person must include in the bid an Agent Agreement with specific roles and responsibilities with respect to this procurement.</p>
	D. Submission of Bids
ITB 21.2	<p>In addition to the original of the Bid, the number of copies is: Three (03).</p> <p>In addition, the original bid shall include an electronic copy of the bid on a Flash Drive. In case of any discrepancy in between the paper-based bid and the electronic copy of the bid, the paper-based bid shall prevail.</p>
ITB 22.1	<p>For <u>Bid submission purposes</u> only, the Purchaser’s address is:</p> <p>Attention: Project Director, Enhancing Digital Government and Economy (EDGE) Project</p> <p>Address: Youth Tower (Level-5), 822/2, Rokeya Sarani, Dhaka-1216, Bangladesh</p> <p>The deadline for Bid submission is:</p> <p>Date: 18 December 2024</p> <p>Time: 12.00 hours Bangladesh Standard Time (BST= GMT + 6:00 hours)</p> <p>Bidders shall not have the option of submitting their Bids electronically.</p> <p>The electronic bidding submission procedures shall be: not applicable.</p>
	E. Public Opening of Technical Parts of Bids
ITB 25.1	The Bid opening shall take place at:

	<p>Address: Youth Tower (Level-5), 822/2, Rokeya Sarani, Dhaka-1216, Bangladesh</p> <p>Date: 18 December 2024</p> <p>Time: 12.30 hours Bangladesh Standard Time (BST= GMT + 6:00 hours)</p> <p>The electronic Bid opening procedures shall be: not applicable.</p>
ITB 25.6	The Letter of Bid - Technical Part and the sealed envelope marked “Second Envelope - Financial Part” shall be initialed by all representatives of the Purchaser conducting Bid opening. Each Bid shall be initialed by all representatives and shall be numbered, any modification to the unit or total price shall be initialed by the Representative of the Purchaser, etc.
G. Evaluation of Technical Parts of Bids	
ITB 32.4	The Purchaser’s evaluation of responsive Bids will not take into account scored technical factors, in addition to cost factors <i>as</i> specified in Section III- Evaluation and Qualification Criteria.
H. Notification of Evaluation of Technical Parts and Public Opening of Financial Parts of Bids	
ITB 33.5	The Letter of Bid – Financial Part and the Price Schedules shall be initialed by all representatives of the Purchaser conducting Bid opening. Each Financial Part of Bid shall be initialed by all representatives and shall be numbered, any modification to the unit or total price shall be initialed by the Representative of the Purchaser, etc.
I. Evaluation of Financial Part of Bids	
ITB 34.2(a)	<p>Evaluation will be done for</p> <p>Bids will be evaluated lot by lot. If a Price Schedule shows items listed but not priced, their prices shall be assumed to be included in the prices of other items. An item not listed in the Price Schedule shall be assumed to be not included in the Bid, and provided that the Bid is substantially responsive, the average price of the item quoted by substantially responsive Bidders will be added to the Bid price and the equivalent total cost of the Bid so determined will be used for price comparison.</p>
ITB 34.6	<p>The adjustments shall be determined using the following criteria, from amongst those set out in Section III, Evaluation and Qualification Criteria:</p> <p>Not Applicable.</p> <p>(a) Deviation in Delivery schedule: <i>No.</i></p> <p>(b) Deviation in payment schedule: <i>No.</i></p>

	<p>(c) the cost of major replacement component, mandatory spare parts, and service: <i>No.</i></p> <p>(d) the availability in the Purchaser's Country of spare parts and after-sales services for the equipment offered in the Bid <i>No.</i></p> <p>(e) Life cycle costs: the costs during the life of the goods or equipment <i>No.</i></p> <p>(f) the performance and productivity of the equipment offered; <i>No.</i></p> <p>(g) <i>No other specific criteria in Section III, Evaluation and Qualification Criteria</i></p>
ITB 36.1	<p>The currency that shall be used for Bid evaluation and comparison purposes to convert at the selling exchange rate all Bid prices expressed in various currencies into a single currency is Bangladesh Taka (BDT).</p> <p>The source of exchange rate shall be: Bangladesh Bank (web site: https://www.bb.org.bd/en/index.php/econdata/exchangerate)</p> <p>The date for the exchange rate shall be: Fourteen (14) days prior to the date of bid submission.</p>
ITB 37.1	<p>A margin of domestic preference shall apply.</p> <p>The application methodology shall be as defined in Section III, Evaluation and Qualification Criteria.</p> <p>Group A Bidder will provide detail of the cost breakdown of items in its bid if the Bidder wishes to get margin of preference.</p>
J. Evaluation of Combined Technical and Financial Parts and Most Advantageous Bid	
ITB 40.1	The weight to be given for cost is: Not Applicable.
J. Award of Contract	
ITB 45.1	<p>The maximum percentage by which quantities may be increased is 20%.</p> <p>The maximum percentage by which quantities may be decreased is 20%.</p>
ITB 50.1	<p>The procedures for making a Procurement-related Complaint are detailed in the "<u>Procurement Regulations for IPF Borrowers</u> (Annex III)." If a Bidder wishes to make a Procurement-related Complaint, the Bidder should submit its complaint following these procedures, in writing (by the quickest means available, that is either by email or fax), to:</p> <p>For the attention: Md Shakhawat Hossain</p>

	<p>Title/position: Project Director, Enhancing Digital Government and Economy (EDGE) Project</p> <p>Purchaser: Bangladesh Computer Council (BCC)</p> <p>Email address: piu.edge@bcc.gov.bd</p> <p>Fax number: Not applicable</p> <p>In summary, a Procurement-related Complaint may challenge any of the following:</p> <ol style="list-style-type: none">1. the terms of the Bidding Documents;2. the Purchaser's decision to exclude a Bidder from the procurement process prior to the award of contract; and3. the Purchaser's decision to award the contract.
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Section III - Evaluation and Qualification Criteria

This Section contains the criteria that the Purchaser shall use to evaluate Bids and qualify the Bidders. No other factors, methods or criteria shall be used other than specified in this bidding document.

TECHNICAL PART

1. Qualification

For Lot-1: Supply, Installation and Commissioning of Computational Equipment for C4IR at BCC

Qualification Criteria (ITB 32.1)

The Purchaser shall assess each Bid against the following Qualification Criteria. Requirements not included in the text below shall not be used in the evaluation of the Bidder's qualifications.

- (a) **Financial Capability:** The Bidder shall submit audited financial statements or, if not required by the law of the Bidder's country, other financial statements acceptable to the Purchaser, for the last three (3) years prior to bid submission deadline, demonstrating the current soundness of the Bidder's financial position. For a joint venture, this requirement shall be met by each member.
- (b) **Financial Resources:** The Bidder must demonstrate access to, or availability of, financial resources other than any contractual commitment to meet the minimum cash-flow requirement **US\$ 0.4 million** or equivalent amount for the supply. The documentary evidence shall be in the form of supporting letter(s) issued by the bidder's bank/financial institution confirming that the above-specified minimum amount is available through lines of credit and/or funds in the bidder's bank account for use specifically in the execution of the subject contract if awarded to the bidder. For a joint venture, this requirement may be met by all members combined. While each member of the joint venture must meet at least 25% of the financial requirement.
- (c) **General Experience:** The Bidder shall have 5 years of overall experience in the supply of Goods. For a joint venture, this requirement shall be met by each member.
- (d) **Specific Experience:** The Bidder shall demonstrate that it has successfully completed with a minimum amount of contract value **US\$ 0.5 million or equivalent amount** under one (1) similar contract within the last five (5) years prior to bid submission deadline, that have been successfully and substantially¹ completed and that are similar in nature and

¹ Substantial completion shall be based on 80% or more value completed under the contract and shall satisfy the minimum value of contract as required.

complexity to the Goods and Related Services under the Contract. The contract will be treated as similar, which includes similar type of items as described in Section VII Purchaser's Requirements. For a joint venture², this requirement may be met by all members combined.

- (e) **Documentary Evidence:** The Bidder shall furnish documentary evidence to demonstrate that the Goods it offers meet the following usage requirement:

The product has been implemented by at least one (1) customer / organization for the Items listed in ITB 17.2 (a) clause Section II - Section VII - Bid Data Sheet (BDS) for Lot-1.

- (f) **Manufacturing experience and Technical Capacity:** For the items under the Contract that the bidder is a manufacturer, the Bidder shall furnish documentary evidence to demonstrate that:

- (i) it has manufactured goods of specific goods for at least three (3) years, prior to the bid submission deadline; and
- (ii) its annual production capacity of goods of specific goods for each of the last three (3) years prior to the bid submission deadline, is at least three (3) times the quantities specified under the contract.

- (g) **Manufacturer's authorization:** A Bidder who does not manufacture an item/s where a manufacturer authorization is required in accordance with BDS ITB 17.2 (a), the Bidder shall provide evidence of being duly authorized by a manufacturer (Manufacturer's Authorization Form, Section IV, Bidding Forms), meeting the criteria in (f) (i) and (ii) above, to supply the Goods;

- (h) A bidder who does not manufacture an item/s where a manufacturer authorization is not required in accordance with BDS ITB 17.2 (a), the bidder shall submit documentation on, its status as a supplier, to the satisfaction of the Purchaser (*e.g. authorized dealer/distributor/Authorized Reseller of the items*).

At the time of Contract Award, the Bidder (including each subcontractor proposed by the Bidder) shall not be subject to disqualification by the Bank for non-compliance with SEA/ SH obligations.

For Lot-2: Supply, Installation and Commissioning of Robotic Equipment for C4IR at BCC
Qualification Criteria (ITB 32.1)

The Purchaser shall assess each Bid against the following Qualification Criteria. Requirements not included in the text below shall not be used in the evaluation of the Bidder's qualifications.

² For contracts under which the Bidder participated as a joint venture member, only the Bidder's share, by value, and role and responsibilities shall be considered to meet this requirement.

In the case of joint venture, the value of contracts completed by its members shall not be aggregated to determine whether the requirement of the minimum value of a single contract has been met. Instead, each contract performed by each member shall satisfy the minimum value of a single contract as required for single entity

- (a) **Financial Capability:** The Bidder shall submit audited financial statements or, if not required by the law of the Bidder's country, other financial statements acceptable to the Purchaser, for the last three (3) years prior to bid submission deadline, demonstrating the current soundness of the Bidder's financial position. For a joint venture, this requirement shall be met by each member.
- (b) **Financial Resources:** The Bidder must demonstrate access to, or availability of, financial resources other than any contractual commitment to meet the minimum cash-flow requirement **US\$ 0. 6 million** or equivalent amount for the supply. The documentary evidence shall be in the form of supporting letter(s) issued by the bidder's bank/financial institution confirming that the above-specified minimum amount is available through lines of credit and/or funds in the bidder's bank account for use specifically in the execution of the subject contract if awarded to the bidder. For a joint venture, this requirement may be met by all members combined. While each member of the joint venture must meet at least 25% of the financial requirement.
- (c) **General Experience:** The Bidder shall have 5 years of overall experience in the supply of Goods. For a joint venture, this requirement shall be met by each member.
- (d) **Specific Experience:** The Bidder shall demonstrate that it has successfully completed with a minimum amount of contract value **US\$ 0.7 million or equivalent amount** under maximum two (2) similar contract(s) within the last five (5) years prior to bid submission deadline, that have been successfully and substantially³ completed and that are similar in nature and complexity to the Goods and Related Services under the Contract. The contract will be treated as similar, which includes similar type of items as described in Section VII Purchaser's Requirements, GPU, data center equipment, networking devices and security equipment. For a joint venture⁴, this requirement may be met by all members combined.
- (e) **Documentary Evidence:** The Bidder shall furnish documentary evidence to demonstrate that the Goods it offers meet the following usage requirement:
- The product has been implemented by at least one (1) customer / organization for the Items listed in ITB 17.2 (a) clause Section II - Section VII - Bid Data Sheet (BDS) for Lot-2..
- (f) **Manufacturing experience and Technical Capacity:** For the items under the Contract that the bidder is a manufacturer, the Bidder shall furnish documentary evidence to demonstrate that:

³ Substantial completion shall be based on 80% or more value completed under the contract and shall satisfy the minimum value of contract as required.

⁴ For contracts under which the Bidder participated as a joint venture member, only the Bidder's share, by value, and role and responsibilities shall be considered to meet this requirement.

In the case of joint venture, the value of contracts completed by its members shall not be aggregated to determine whether the requirement of the minimum value of a single contract has been met. Instead, each contract performed by each member shall satisfy the minimum value of a single contract as required for single entity. In determining whether the JV meets the requirement of total number of contracts, only the number of contracts completed by all members each of value equal or more than the minimum value required shall be aggregated.

- (i) it has manufactured goods of specific goods for at least three (3) years, prior to the bid submission deadline; and
 - (ii) its annual production capacity of goods of specific goods for each of the last three (3) years prior to the bid submission deadline, is at least three (3) times the quantities specified under the contract.
- (g) **Manufacturer’s authorization:** A Bidder who does not manufacture an item/s where a manufacturer authorization is required in accordance with BDS ITB 17.2 (a), the Bidder shall provide evidence of being duly authorized by a manufacturer (Manufacturer’s Authorization Form, Section IV, Bidding Forms), meeting the criteria in (f) (i) and (ii) above, to supply the Goods;
- (h) A bidder who does not manufacture an item/s where a manufacturer authorization is not required in accordance with BDS ITB 17.2 (a), the bidder shall submit documentation on, its status as a supplier, to the satisfaction of the Purchaser (*e.g. authorized dealer/distributor/Authorized Reseller of the items*).

At the time of Contract Award, the Bidder (including each subcontractor proposed by the Bidder) shall not be subject to disqualification by the Bank for non-compliance with SEA/ SH obligations.

For Lot- 3: Supply, Installation and Commissioning of IoT, Drone and Advance Equipment for C4IR at BCC.

Qualification Criteria (ITB 32.1)

The Purchaser shall assess each Bid against the following Qualification Criteria. Requirements not included in the text below shall not be used in the evaluation of the Bidder’s qualifications.

- (a) **Financial Capability:** The Bidder shall submit audited financial statements or, if not required by the law of the Bidder’s country, other financial statements acceptable to the Purchaser, for the last three (3) years prior to bid submission deadline, demonstrating the current soundness of the Bidder’s financial position. For a joint venture, this requirement shall be met by each member.
- (b) **Financial Resources:** The Bidder must demonstrate access to, or availability of, financial resources other than any contractual commitment to meet the minimum cash-flow requirement **US\$ 0.5 million** or equivalent amount for the supply. The documentary evidence shall be in the form of supporting letter(s) issued by the bidder’s bank/financial institution confirming that the above-specified minimum amount is available through lines of credit and/or funds in the bidder’s bank account for use specifically in the execution of the subject contract if awarded to the bidder. For a joint venture, this requirement may be met by all members combined. While each member of the joint venture must meet at least 25% of the financial requirement.

- (c) **General Experience:** The Bidder shall have 5 years of overall experience in the supply of Goods. For a joint venture, this requirement shall be met by each member.
- (d) **Specific Experience:** The Bidder shall demonstrate that it has successfully completed with a minimum amount of contract value **US\$ 0.6 million or equivalent amount** under maximum two (2) similar contract(s) within the last five (5) years prior to bid submission deadline, that have been successfully and substantially⁵ completed and that are similar in nature and complexity to the Goods and Related Services under the Contract. The contract will be treated as similar, which includes similar type of items as described in Section VII Purchaser's Requirements. For a joint venture⁶, this requirement may be met by all members combined.
- (e) **Documentary Evidence:** The Bidder shall furnish documentary evidence to demonstrate that the Goods it offers meet the following usage requirement:
- The product has been implemented by at least one (1) customer / organization for the Items listed in ITB 17.2 (a) clause Section II - Section VII - Bid Data Sheet (BDS) for Lot-3.
- (f) **Manufacturing experience and Technical Capacity:** For the items under the Contract that the bidder is a manufacturer, the Bidder shall furnish documentary evidence to demonstrate that:
- (i) it has manufactured goods of specific goods for at least three (3) years, prior to the bid submission deadline; and
 - (ii) its annual production capacity of goods of specific goods for each of the last three (3) years prior to the bid submission deadline, is at least three (3) times the quantities specified under the contract.
- (g) **Manufacturer's authorization:** A Bidder who does not manufacture an item/s where a manufacturer authorization is required in accordance with BDS ITB 17.2 (a), the Bidder shall provide evidence of being duly authorized by a manufacturer (Manufacturer's Authorization Form, Section IV, Bidding Forms), meeting the criteria in (f) (i) and (ii) above, to supply the Goods;
- (h) A bidder who does not manufacture an item/s where a manufacturer authorization is not required in accordance with BDS ITB 17.2 (a), the bidder shall submit documentation on,

⁵ Substantial completion shall be based on 80% or more value completed under the contract and shall satisfy the minimum value of contract as required.

⁶ For contracts under which the Bidder participated as a joint venture member, only the Bidder's share, by value, and role and responsibilities shall be considered to meet this requirement.

In the case of joint venture, the value of contracts completed by its members shall not be aggregated to determine whether the requirement of the minimum value of a single contract has been met. Instead, each contract performed by each member shall satisfy the minimum value of a single contract as required for single entity. In determining whether the JV meets the requirement of total number of contracts, only the number of contracts completed by all members each of value equal or more than the minimum value required shall be aggregated.

its status as a supplier, to the satisfaction of the Purchaser (*e.g. authorized dealer/distributor/Authorized Reseller of the items*).

Note: To qualify for multiple number of contracts/lots for this Request for Bids, the Bidder must meet cumulative specific experience for supply of respective lots and shall demonstrate having resources (i.e., (i) Average Annual Turnover and (ii) Financial Resources) sufficient to meet the aggregate of the qualifying criteria for the individual contracts.

At the time of Contract Award, the Bidder (including each subcontractor proposed by the Bidder) shall not be subject to disqualification by the Bank for non-compliance with SEA/ SH obligations.

2. Technical Evaluation (ITB 32.4)

For each lot must meet the requirements of Section VII, Schedule of Requirements.

Technical Part Scoring Methodology – Not Applicable

- a) During the evaluation process, the evaluation committee will assign each desirable feature as describe bellow:

Score (of the total score for the factor/subfactor as applicable)	Description	Remarks
0	Required feature is absent; no relevant information to demonstrate how the requirement is met	
1	Required feature present with deficiencies such as insufficient or information that lacks clarity	
2	Sufficient information to demonstrate how the requirement will be met	
3	Sufficient information to demonstrate that the requirement will be marginally exceeded	
4	Sufficient information that significantly exceed the requirement/bid contributes to significant value addition	

- b) The score for each sub- factor (i) within a factor (j) will be combined with the scores of sub- factors in *the* same factor as a weighted sum to form the Factor Technical Score using the following formula:

$$S_j \equiv \sum_{i=1}^k t_{ji} * w_{ji}$$

where:

- t_{ji} = the technical score for sub- factor “i” in factor “j”,
 w_{ji} = the weight of sub- factor “i” in factor “j”,
 k = the number of scored sub-factors in factor “j”, and

$$\sum_{i=1}^k w_{ji} = 1$$

The Factor Technical Scores will be combined in a weighted sum to form the total Technical Bid Score using the following formula:

$$T \equiv \sum_{j=1}^n S_j * W_j$$

where:

- S_j = the Factor Technical Score of factor “j”,
 W_j = the weight of factor “j” as specified in the BDS,
 n = the number of Factors, and

$$\sum_{j=1}^n W_j = 1$$

FINANCIAL PART

1. Margin of Preference (ITB 37)

If the Bidding Data Sheet so specifies, the Purchaser will grant a margin of preference to goods manufactured in the Purchaser’s country for the purpose of Bid comparison, in accordance with the procedures outlined in subsequent paragraphs.

Substantially responsive Bids will be classified in one of three groups, as follows:

- (a) **Group A:** Bids offering goods manufactured in the Purchaser’s Country, for which (i) labor, raw materials, and components from within the Purchaser’s Country account for more than thirty (30) percent of the EXW price; and (ii) the production facility in which they will be manufactured or assembled has been engaged in manufacturing or assembling such goods at least since the date of Bid submission.
- (b) **Group B:** All other Bids offering Goods manufactured in the Purchaser’s Country.
- (c) **Group C:** Bids offering Goods manufactured outside the Purchaser’s Country that have been already imported or that will be imported.

To facilitate this classification by the Purchaser, the Bidder shall complete whichever version of the Price Schedule furnished in the bidding document is appropriate provided, however, that the completion of an incorrect version of the Price Schedule by the Bidder shall not result in

rejection of its Bid, but merely in the Purchaser's reclassification of the Bid into its appropriate Bid group.

The Purchaser will first review the Bids to confirm the appropriateness of, and to modify as necessary, the Bid group classification to which Bidders assigned their Bids in preparing their Bid Forms and Price Schedules.

Following the combined evaluation procedure described below, the Bids in each group will then be compared to determine the Most Advantageous Bid in that group. The Most Advantageous Bid from each group shall then be compared with each other and if as a result of this comparison a Bid from Group A or Group B is the Most Advantageous, it shall be selected for the award.

If as a result of the preceding comparison, a Bid from Group C is the Most Advantageous Bid, all Bids from Group C shall be further compared with the Bid with the lowest evaluated cost from Group A after adding to the evaluated price of goods offered in each Bid from Group C, for the purpose of this further comparison only, an amount equal to 15% (fifteen percent) of the respective CIP Bid price for goods to be imported and already imported goods. Both prices shall include unconditional discounts and be corrected for arithmetical errors. If the Bid from Group A is the Most Advantageous, it shall be selected for award. If not, the Most Advantageous Bid from Group C shall be selected.

2. Evaluation Criteria (ITB 34.6)

The Purchaser shall use the criteria and methodologies listed in this Section to evaluate the Financial Part for each lot.

The Purchaser's evaluation of the Financial Part may take into account, in addition to the Bid Price, one or more of the following factors as **specified in BDS ITB 34.6**, using the following criteria and methodologies.

- (a) Delivery schedule. (As per Incoterms specified in the BDS)

The Goods specified in the List of Goods are required to be delivered within the acceptable time range (after the earliest and before the final date, both dates inclusive) specified in Section VII, Schedule of Requirements. No credit will be given to deliveries before the earliest date, and Bids offering delivery after the final date shall be treated as nonresponsive.

- (b) Deviation in payment schedule.

(i) *The SCC stipulates the payment schedule specified by the Purchaser. If a Bid deviates from the schedule shall be treated as nonresponsive.*

- (c) Cost of major replacement components, mandatory spare parts, and service. **Not Applicable.**

(i) *The list of items and quantities of major assemblies, components, and selected spare parts, likely to be required during the initial period of operation*

specified in the BDS 16.4, is in the List of Goods. An adjustment equal to the total cost of these items, at the unit prices quoted in each Bid, shall be added to the Bid price, for evaluation purposes only.

or

- (i) *The Purchaser will draw up a list of high-usage and high-value items of components and spare parts, along with estimated quantities of usage in the initial period of operation specified in the BDS 16.4. The total cost of these items and quantities will be computed from spare parts unit prices submitted by the Bidder and added to the Bid price, for evaluation purposes only.*
- (d) Availability in the Purchaser's Country of spare parts and after sales services for equipment offered in the Bid.
- (e) Life Cycle Cost – **Not Applicable.**

If specified in BDS 34.6. an adjustment to take into account the additional life cycle costs for the period specified below, such as the operating and maintenance costs of the Goods, will be added to the Bid price, for evaluation purposes only. The adjustment will be evaluated in accordance with the methodology specified below.

[Note to purchase: Life cycle costings should be used when the costs of operation and/or maintenance over the specified life of the goods are estimated to be considerable in comparison with the initial cost and may vary among different Bids. Life cycle cost shall be evaluated on a net present value basis. If life cycle costs apply then specify the factors required to determine them for evaluation purposes.]

[Either amend the following text as required, or delete if life cycle cost is not applicable]

- (i) number of years for life cycle cost determination *[insert the number of years]*;
 - (ii) the discount rate to be applied to determine the net present value of future operation and maintenance costs (recurrent costs) is *[insert the discount rate]*;
 - (iii) the annual operating and maintenance costs (recurrent costs) shall be determined on the basis of the following methodology: *[insert methodology]*;
 - (iv) and the following information is required from bidders *[insert any information required from bidders, including prices]*.
- (f) Performance and productivity of the equipment. **Not Applicable.**
- (i) Performance and productivity of the equipment. An adjustment representing the capitalized cost of additional operating costs over the life of the goods will be added to the Bid price, for evaluation purposes if specified in the BDS 34.6. The adjustment will be evaluated based on the drop in the guaranteed performance or efficiency offered in the Bid below the norm of 100, using the methodology below.

[insert the methodology and criteria if applicable]

or

- (i) An adjustment to take into account the productivity of the goods offered in the Bid will be added to the Bid price, for evaluation purposes only, if specified in BDS 34.6. The adjustment will be evaluated based on the cost per unit of the actual productivity of goods offered in the Bid with respect to minimum required values, using the methodology below.

[insert the methodology and criteria if applicable].

- (g) Specific additional criteria

No Other specific additional criteria to be considered in the evaluation.

Combined Evaluation – Not Applicable

The Purchaser will evaluate and compare the Bids that have been determined to be substantially responsive.

The Purchaser’s evaluation of responsive Bids will take into account technical factors, in addition to cost factors.

An Evaluated Bid Score (B) will be calculated for each responsive Bid using the following formula (for comparison in percentages), which permits a comprehensive assessment of the Bid price and the technical merits of each Bid:

$$B \equiv \frac{C_{low}}{C} * X * 100 + \frac{T}{T_{high}} * (1 - X) * 100$$

where

C = Evaluated Bid Price

C_{low} = the lowest of all Evaluated Bid Prices among responsive Bids

T = the total Technical Score awarded to the Bid

T_{high} = the Technical Score achieved by the Bid that was scored best among all responsive Bids

X = weight for the Cost as specified in the BDS

The Bid with the best evaluated Bid Score (B) among responsive Bids shall be the Most Advantageous Bid provided the Bidder is qualified to perform the Contract.

Multiple Contracts (ITB 34.4) – Not Applicable.

If in accordance with **ITB 1.1**, Bids are invited for more than one lot, the contract will be awarded to the Bidder or Bidders with the Most Advantageous Bid for the individual lots.

However, if a Bidder, with Bids that are substantially responsive and with highest evaluated score for individual lots, is not qualified for the combination of the lots, then the award will be made based on the highest total score for combination of lots for which Bidders are qualified.

Discounts that are conditional on the award of more than one lot will not be considered for bid evaluation purpose.

Alternative Bids (ITB 13.1) – Not Applicable.

An alternative if permitted under ITB 13.1, will be evaluated as follows:

[insert one of the following]

“A Bidder may submit an Alternative Bid (Technical and Financial Parts) only with a Bid for the base case. The Purchaser shall only consider the Alternative Bids offered by the Bidder whose Bid for the base case was determined to be the Most Advantageous Bid.”

or

“A Bidder may submit an Alternative Bid with or without a Bid for the base case. The Purchaser shall consider Bids offered for alternatives as specified in the Technical Specifications of Section VII, Schedule of Requirements. All Bids received, for the base case, as well as Alternative Bids meeting the specified requirements, shall be evaluated on their own merits in accordance with the same procedures, as specified in the ITB 30 and ITB 34.”

Section IV - Bidding Forms

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Letter of Bid – Technical Part

INSTRUCTIONS TO BIDDERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE DOCUMENT

Place this Letter of Bid in the first envelope “TECHNICAL PART”.

The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder’s complete name and business address.

Note: All italicized text in black font is to help Bidders in preparing this form and Bidders shall delete it from the final document.

Date of this Bid submission: *[insert date (as day, month and year) of Bid submission]*

RFB No.: *[insert number of Bidding process]*

Request for Bid No.: *[insert identification]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[insert complete name of Purchaser]*

We, the undersigned Bidder, hereby submit our Bid, in two parts, namely:

- (a) the Technical Part, and
- (b) the Financial Part.

In submitting our Bid we make the following declarations:

- (a) **No reservations:** We have examined and have no reservations to the bidding document, including addenda issued in accordance with Instructions to Bidders (ITB 8);
- (b) **Eligibility:** We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;
- (c) **Bid/Proposal-Securing Declaration:** We have not been suspended nor declared ineligible by the Purchaser based on execution of a Bid Securing Declaration or Proposal Securing Declaration in the Purchaser’s country in accordance with ITB 4.7;
- (d) **Sexual Exploitation and Abuse (SEA) and/or Sexual Harassment (SH):** *[select the appropriate option from (i) to (iii) below and delete the others. In case of JV members and/or subcontractors, indicate the status of disqualification by the Bank of each JV member and/or subcontractor].*

We, including any of our subcontractors:

- (i) *[have not been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations.]*
- (ii) *[are subject to disqualification by the Bank for non-compliance with SEA/ SH obligations.]*

- (iii) [had been subject to disqualification by the Bank for non-compliance with SEA/SH obligations, and were removed from the disqualification list. An arbitral award on the disqualification case has been made in our favor.]
- (e) **Conformity:** We offer to supply in conformity with the bidding document and in accordance with the Delivery Schedules specified in the Schedule of Requirements the following Goods: *[insert a brief description of the Goods and Related Services]*;
- (f) **Bid Validity:** Our Bid shall be valid until *[insert day, month and year in accordance with ITB 18.1]*, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (g) **Performance Security:** If our Bid is accepted, we commit to obtain a performance security in accordance with the bidding document;
- (h) **One Bid per Bidder:** We are not submitting any other Bid(s) as an individual Bidder, and we are not participating in any other bid(s) as a Joint Venture member or as a subcontractor, and meet the requirements of ITB 4.3, other than Alternative Bids submitted in accordance with ITB 13;
- (i) **Suspension and Debarment:** We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the World Bank Group or a debarment imposed by the World Bank Group in accordance with the Agreement for Mutual Enforcement of Debarment Decisions between the World Bank and other development banks. Further, we are not ineligible under the Purchaser's country laws or official regulations or pursuant to a decision of the United Nations Security Council;
- (j) **State-owned enterprise or institution:** *[select the appropriate option and delete the other] [We are not a state-owned enterprise or institution] / [We are a state-owned enterprise or institution but meet the requirements of ITB 4.6]*;
- (k) **Binding Contract:** We understand that this Bid, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;
- (l) **Not Bound to Accept:** We understand that you are not bound to accept the lowest evaluated cost Bid, the Most Advantageous Bid or any other Bid that you may receive; and
- (m) **Fraud and Corruption:** We hereby certify that we have taken steps to ensure that no person acting for us, or on our behalf, engages in any type of Fraud and Corruption.

Name of the Bidder: **[insert complete name of Bidder]*

Name of the person duly authorized to sign the Bid on behalf of the Bidder: *** [insert complete name of person duly authorized to sign the Bid]*

Title of the person signing the Bid: *[insert complete title of the person signing the Bid]*

Signature of the person named above: *[insert signature of person whose name and capacity are shown above]*

Date signed *[insert date of signing]* **day of** *[insert month]*, *[insert year]*

*: In the case of the Bid submitted by a Joint Venture specify the name of the Joint Venture as Bidder.

** : Person signing the Bid shall have the power of attorney given by the Bidder. The power of attorney shall be attached with the Bid Schedules.

Unofficial Copy

Technical Part

The technical bid shall include all relevant information required to evaluate the technical Part in accordance with the requirements.

To establish the conformity of the Goods and Related Services to the RFB document, the Bidder shall furnish the documentary evidence that the Goods conform to the technical specifications and standards, including any essential technical and performance characteristics specified in Section VII, Schedule of Requirements. Any required functional guarantees shall also be provided. The attached forms/format may support the Bidder to organize information required to present its technical bid.

The documentary evidence may be in the form of literature, drawings or data, and shall consist of a detailed item by item description of the essential technical and performance characteristics of the Goods and Related Services, demonstrating substantial responsiveness of the Goods and Related Services to the technical specification, and if applicable, a statement of deviations and exceptions to the provisions of the Section VII, Schedule of Requirements.

In the interest of timely bid evaluation and contract award, Bidders are encouraged not to overload the supporting materials with documents that do not directly address the Purchaser's requirements.

The Bidder shall also furnish a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the Goods during the period specified in the BDS following commencement of the use of the goods by the Purchaser.

Standards for workmanship, process, material, and equipment, as well as references to brand names or catalogue numbers specified by the Purchaser in the Schedule of Requirements, are intended to be descriptive only and not restrictive. The Bidder may offer other standards of quality, brand names, and/or catalogue numbers, provided that it demonstrates, to the Purchaser's satisfaction, that the substitutions ensure substantial equivalence or are superior to those specified in the Section VII, Schedule of Requirements.

If the contract has been assessed to present potential or actual cyber security risks, the technical bid must include proposed cyber security risks management plan.

If there are assessed supply chain risks, the technical bid must include proposed supply chain risk management plan.

The Manufacturer's Authorizations shall be included in accordance with ITB BDS 17.2 (a) and the attached Manufacturer's Authorization form.

Technical Bid Checklist

Technical Requirement No. _	Technical Requirement: <i>[insert: description of requirement]</i>
Bidder's technical bid/ compliance:	
Bidder's cross references to supporting information in the Technical Bid:	

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Functional Guarantees

(to be used as applicable)

The Bidder shall copy in the left column of the table below; the identification of each functional guarantee required in the Specification and in the right column, provides the corresponding value for each functional guarantee of the proposed Goods.

Required Functional Guarantee	Value of Functional Guarantee of the Goods
1.	
2.	
3.	
...	

Unofficial Copy

Manufacturer's Authorization

[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer. The Bidder shall include it in its Bid, if so indicated in the BDS.]

Date: *[insert date (as day, month and year) of Bid submission]*

RFB No.: *[insert number of RFB process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[insert complete name of Purchaser]*

WHEREAS

We *[insert complete name of Manufacturer]*, who are official manufacturers of *[insert type of goods manufactured]*, having factories at *[insert full address of Manufacturer's factories]*, do hereby authorize *[insert complete name of Bidder]* to submit a Bid the purpose of which is to provide the following Goods, manufactured by us *[insert name and or brief description of the Goods]*, and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with Clause 28 of the General Conditions of Contract, with respect to the Goods offered by the above firm.

We confirm that we do not engage or employ forced labor or persons subject to trafficking or child labor, in accordance with Clause 14 of the General Conditions of Contract.

Signed: *[insert signature(s) of authorized representative(s) of the Manufacturer]*

Name: *[insert complete name(s) of authorized representative(s) of the Manufacturer]*

Title: *[insert title]*

Dated on _____ day of _____, _____ *[insert date of signing]*

Bidder Information Form

[The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted.]

Date: *[insert date (as day, month and year) of Bid submission]*

RFB No.: *[insert number of Bidding process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

Page _____ of _____ pages

1. Bidder's Name <i>[insert Bidder's legal name]</i>
2. In case of JV, legal name of each member : <i>[insert legal name of each member in JV]</i>
3. Bidder's actual or intended country of registration: <i>[insert actual or intended country of registration]</i>
4. Bidder's year of registration: <i>[insert Bidder's year of registration]</i>
5. Bidder's Address in country of registration: <i>[insert Bidder's legal address in country of registration]</i>
6. Bidder's Authorized Representative Information Name: <i>[insert Authorized Representative's name]</i> Address: <i>[insert Authorized Representative's Address]</i> Telephone/Fax numbers: <i>[insert Authorized Representative's telephone/fax numbers]</i> Email Address: <i>[insert Authorized Representative's email address]</i>
7. Attached are copies of original documents of <i>[check the box(es) of the attached original documents]</i> <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITB 4.4. <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB 4.1. <input type="checkbox"/> In case of state-owned enterprise or institution, in accordance with ITB 4.6 documents establishing: <ul style="list-style-type: none"> • Legal and financial autonomy • Operation under commercial law • Establishing that the Bidder is not under the supervision of the Purchaser

8. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership. The successful Bidder shall provide additional information on beneficial ownership, using the Beneficial Ownership Disclosure Form.

Unofficial Copy

Bidder's JV Members Information Form

[The Bidder shall fill in this Form in accordance with the instructions indicated below. The following table shall be filled in for the Bidder and for each member of a Joint Venture]].

Date: *[insert date (as day, month and year) of Bid submission]*

RFB No.: *[insert number of RFB process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

Page _____ of _____ pages

1. Bidder's Name: <i>[insert Bidder's legal name]</i>
2. Bidder's JV Member's name: <i>[insert JV's Member legal name]</i>
3. Bidder's JV Member's country of registration: <i>[insert JV's Member country of registration]</i>
4. Bidder's JV Member's year of registration: <i>[insert JV's Member year of registration]</i>
5. Bidder's JV Member's legal address in country of registration: <i>[insert JV's Member legal address in country of registration]</i>
6. Bidder's JV Member's authorized representative information Name: <i>[insert name of JV's Member authorized representative]</i> Address: <i>[insert address of JV's Member authorized representative]</i> Telephone/Fax numbers: <i>[insert telephone/fax numbers of JV's Member authorized representative]</i> Email Address: <i>[insert email address of JV's Member authorized representative]</i>
7. Attached are copies of original documents of <i>[check the box(es) of the attached original documents]</i> <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 4.4. <input type="checkbox"/> In case of a state-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and that they are not under the supervision of the Purchaser, in accordance with ITB 4.6.
8. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership. The successful Bidder shall provide additional information on beneficial ownership for each JV member using the Beneficial Ownership Disclosure Form.

Sexual Exploitation and Abuse (SEA) and/or Sexual Harassment Performance Declaration

[The following table shall be filled in by the Bidder, each member of a Joint Venture and each subcontractor proposed by the Bidder]

Bidder's Name: *[insert full name]*

Date: *[insert day, month, year]*

Joint Venture Member's or Subcontractor's Name: *[insert full name]*

RFB No. and title: *[insert RFB number and title]*

Page *[insert page number]* of *[insert total number]* pages

SEA and/or SH Declaration in accordance with Section III, Qualification Criteria, and Requirements
<p>We:</p> <ul style="list-style-type: none"><input type="checkbox"/> (a) have not been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations<input type="checkbox"/> (b) are subject to disqualification by the Bank for non-compliance with SEA/ SH obligations<input type="checkbox"/> (c) had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations, and were removed from the disqualification list. An arbitral award on the disqualification case has been made in our favor.
<p><i>[If (c) above is applicable, attach evidence of an arbitral award reversing the findings on the issues underlying the disqualification.]</i></p>

Form of Bid Security

(Bank Guarantee)

[The bank shall fill in this Bank Guarantee Form in accordance with the instructions indicated.]

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[Purchaser to insert its name and address]*

RFB No.: *[Purchaser to insert reference number for the Request for Bids]*

Alternative No.: *[Insert identification No if this is a Bid for an alternative]*

Date: *[Insert date of issue]*

BID GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that _____ *[insert name of the Bidder, which in the case of a joint venture shall be the name of the joint venture (whether legally constituted or prospective) or the names of all members thereof]* (hereinafter called "the Applicant") has submitted or will submit to the Beneficiary its Bid (hereinafter called "the Bid") for the execution of _____ under Request for Bids No. _____ ("the RFB").

Furthermore, we understand that, according to the Beneficiary's conditions, Bids must be supported by a Bid guarantee.

At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ (_____) upon receipt by us of the Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:

- (a) has withdrawn its Bid prior to the Bid validity expiry date set forth in the Applicant's Letter of Bid, or any extended date provided by the Applicant; or
- (b) having been notified of the acceptance of its Bid by the Beneficiary prior to the expiry date of the Bid validity or any extension thereof provided by the Applicant has failed to:
 - (i) sign the contract agreement, or
 - (ii) furnish the performance security, in accordance with the Instructions to Bidders ("ITB") of the Beneficiary's bidding document.

This guarantee will expire: (a) if the Applicant is the successful Bidder, upon our receipt of copies of the Contract agreement signed by the Applicant and the performance security issued to the Beneficiary in relation to such Contract agreement; or (b) if the Applicant is not the successful Bidder, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Bidding process; or (ii) twenty-eight days after the expiry date of the Bid validity.

Consequently, any demand for payment under this guarantee must be received by us at the office indicated above on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758.

[Signature(s)]

Note: All italicized text is for use in preparing this form and shall be deleted from the final product.

Form of Bid Security (Bid Bond)

Not Applicable

[The Surety shall fill in this Bid Bond Form in accordance with the instructions indicated.]

BOND NO. _____

BY THIS BOND [*name of Bidder*] as Principal (hereinafter called “the Principal”), and [*name, legal title, and address of surety*], **authorized to transact business in** [*name of country of Purchaser*], as Surety (hereinafter called “the Surety”), are held and firmly bound unto [*name of Purchaser*] as Obligee (hereinafter called “the Purchaser”) in the sum of [*amount of Bond*]⁷ [*amount in words*], for the payment of which sum, well and truly to be made, we, the said Principal and Surety, bind ourselves, our successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Principal has submitted or will submit a written Bid to the Purchaser dated the ___ day of _____, 20___, for the supply of [*name of Contract*] (hereinafter called the “Bid”).

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal:

- (a) withdraws its Bid prior to the Bid validity expiry date set forth in the Principal’s Letter of Bid, or any extended date provided by the Principal; or
- (b) having been notified of the acceptance of its Bid by the Purchaser prior to the expiry date of the Bid validity or any extension thereto provided by the Applicant has failed to: (i) execute the Contract agreement; or (ii) furnish the Performance Security, in accordance with the Instructions to Bidders (“ITB”) of the Purchaser’s bidding document.

then the Surety undertakes to immediately pay to the Purchaser up to the above amount upon receipt of the Purchaser’s first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser shall state that the demand arises from the occurrence of any of the above events, specifying which event(s) has occurred.

The Surety hereby agrees that its obligation will remain in full force and effect up to and including the date 28 days after the date of expiry of the Bid validity set forth in the Principal’s Letter of Bid or any extension thereto provided by the Principal.

⁷ The amount of the Bond shall be denominated in the currency of the Purchaser’s country or the equivalent amount in a freely convertible currency.

IN TESTIMONY WHEREOF, the Principal and the Surety have caused these presents to be executed in their respective names this ____ day of _____ 20__.

Principal: _____

Surety: _____

Apply Corporate Seal (where appropriate)

(Signature)

(Printed name and title)

(Signature)

(Printed name and title)

Unofficial Copy

Form of Bid-Securing Declaration

Not Applicable

[The Bidder shall fill in this Form in accordance with the instructions indicated.]

Date: *[date (as day, month and year)]*

RFB No.: *[number of RFB process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[complete name of Purchaser]*

We, the undersigned, declare that:

We understand that, according to your conditions, Bids must be supported by a Bid-Securing Declaration.

We accept that we will automatically be suspended from being eligible for Bidding or submitting proposals in any contract with the Purchaser for the period of time specified in Section II – Bid Data Sheet if we are in breach of our obligation(s) under the Bid conditions, because we:

- (a) have withdrawn our Bid prior to the expiry date of the Bid validity specified in the Letter of Bid or any extended date provided by us; or
- (b) having been notified of the acceptance of our Bid by the Purchaser prior to the expiry date of the Bid validity in the Letter of Bid or any extended date provided by us, (i) fail or refuse to sign the Contract; or (ii) fail or refuse to furnish the Performance Security, if required, in accordance with the ITB.

We understand this Bid Securing Declaration shall expire if we are not the successful Bidder, upon the earlier of (i) our receipt of your notification to us of the name of the successful Bidder; or (ii) twenty-eight days after the expiry date of the Bid validity.

Name of the Bidder* _____

Name of the person duly authorized to sign the Bid on behalf of the Bidder** _____

Title of the person signing the Bid _____

Signature of the person named above _____

Date signed _____ day of _____, _____

*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

** : Person signing the Bid shall have the power of attorney given by the Bidder attached to the Bid
[Note: In case of a Joint Venture, the Bid-Securing Declaration must be in the name of all members to the Joint Venture that submits the Bid.]

Letter of Bid - Financial Part

INSTRUCTIONS TO BIDDERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE DOCUMENT

Place this Letter of Bid - Financial Part in the second envelope marked “FINANCIAL PART”.

The Bidder must prepare the Letter of Bid - Financial Part on stationery with its letterhead clearly showing the Bidder’s complete name and business address.

Note: All italicized text is to help Bidders in preparing this form.

Date of this Bid submission: *[insert date (as day, month and year) of Bid submission]*

RFB No.: *[insert number of bidding process]*

Request for Bid No.: *[insert identification]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[insert complete name of Purchaser]*

We, the undersigned Bidder, hereby submit the second part of our Bid, the Financial Part

In submitting our Financial Part we make the following additional declarations:

(a) **Bid Validity:** Our Bid shall be valid until *[insert day, month and year in accordance with ITB 18.1]*, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(b) **Total Price:** The total price of our Bid, excluding any discounts offered in item (c) below is:

In case of only one lot, the total price of the Bid is [insert the total price of the bid in words and figures, indicating the various amounts and the respective currencies];

In case of multiple lots, the total price of each lot is [insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies];

In case of multiple lots, total price of all lots (sum of all lots) [insert the total price of all lots in words and figures, indicating the various amounts and the respective currencies];

(c) **Discounts:** The discounts offered and the methodology for their application are:

(i) The discounts offered are: *[Specify in detail each discount offered]*

(ii) The exact method of calculations to determine the net price after application of discounts is shown below: *[Specify in detail the method that shall be used to apply the discounts]*;

(d) **Commissions, gratuities and fees:** We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract: *[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]*.

Name of Recipient	Address	Reason	Amount

(If none has been paid or is to be paid, indicate “none.”)

(e) **Binding Contract:** We understand that this Bid, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed.

Name of the Bidder: **[insert complete name of the Bidder]*

Name of the person duly authorized to sign the Bid on behalf of the Bidder: *** [insert complete name of person duly authorized to sign the Bid]*

Title of the person signing the Bid: *[insert complete title of the person signing the Bid]*

Signature of the person named above: *[insert signature of person whose name and capacity are shown above]*

Date signed *[insert date of signing]* **day of** *[insert month]*, *[insert year]*

*: In the case of the Bid submitted by a Joint Venture specify the name of the Joint Venture as Bidder.

**.: Person signing the Bid shall have the power of attorney given by the Bidder. The power of attorney shall be attached with the Bid Schedules.

Price Schedule Forms

*[The Bidder shall fill in these Price Schedule Forms in accordance with the instructions indicated. The list of line items in column 1 of the **Price Schedules** shall coincide with the List of Goods and Related Services specified by the Purchaser in the Schedule of Requirements.]*

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Price Schedule: Goods Manufactured Outside the Purchaser's Country, to be Imported

(Group C Bids, goods to be imported)							Date: _____	
Currencies in accordance with ITB 15							RFB No: _____	
							Alternative No: _____	
							Page N° _____ of _____	
1	2	3	4	5	6	7	8	9
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price CIP <i>[insert place of destination]</i> in accordance with ITB 14.8(b)(i)	CIP Price per line item (Col. 5x6)	Price per line item for inland transportation and other services required in the Purchaser's Country to convey the Goods to their final destination specified in BDS	Total Price per Line item (Col. 7+8)
<i>[insert number of the item]</i>	<i>[insert name of good]</i>	<i>[insert country of origin of the Good]</i>	<i>[insert quoted Delivery Date]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert unit price CIP per unit]</i>	<i>[insert total CIP price per line item]</i>	<i>[insert the corresponding price per line item]</i>	<i>[insert total price of the line item]</i>
							Total Price	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[Insert Date]*

Price Schedule: Goods Manufactured Outside the Purchaser's Country, already imported*

(Group C Bids, Goods already imported)

Currencies in accordance with ITB 15

Date: _____

RFB No: _____

Alternative No: _____

Page N° _____ of _____

1	2	3	4	5	6	7	8	9	10	11	12
Line Item N°	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price including Custom Duties and Import Taxes paid, in accordance with ITB 14.8(c)(i)	Custom Duties and Import Taxes paid per unit in accordance with ITB 14.8(c)(ii) , [to be supported by documents]	Unit Price net of custom duties and import taxes, in accordance with ITB 14.8 (c) (iii) (Col. 6 minus Col.7)	Price per line item net of Custom Duties and Import Taxes paid, in accordance with ITB 14.8(c)(i) (Col. 5×8)	Price per line item for inland transportation and other services required in the Purchaser's Country to convey the goods to their final destination, as specified in BDS in accordance with ITB 14.8 (c)(v)	Sales and other taxes paid or payable per item if Contract is awarded (in accordance with ITB 14.8(c)(iv)	Total Price per line item (Col. 9+10)
<i>[insert number of the item]</i>	<i>[insert name of Goods]</i>	<i>[insert country of origin of the Good]</i>	<i>[insert quoted Delivery Date]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert unit price per unit]</i>	<i>[insert custom duties and taxes paid per unit]</i>	<i>[insert unit price net of custom duties and import taxes]</i>	<i>[insert price per line item net of custom duties and import taxes]</i>	<i>[insert price per line item for inland transportation and other services required in the Purchaser's Country]</i>	<i>[insert sales and other taxes payable per item if Contract is awarded]</i>	<i>[insert total price per line item]</i>
Total Bid Price											

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

* *[For previously imported Goods, the quoted price shall be distinguishable from the original import value of these Goods declared to customs and shall include any rebate or mark-up of the local agent or representative and all local costs except import duties and taxes, which have been and/or have to be paid by the Purchaser. For clarity the Bidders are asked to quote the price including import duties, and additionally to provide the import duties and the price net of import duties which is the difference of those values.]*

Price Schedule: Goods Manufactured in the Purchaser's Country

Purchaser's Country _____		(Group A and B Bids) Currencies in accordance with ITB 15				Date: _____ RFB No: _____ Alternative No: _____ Page N° _____ of _____			
1	2	3	4	5	6	7	8	9	10
Line Item N°	Description of Goods	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price EXW	Total EXW price per line item (Col. 4x5)	Price per line item for inland transportation and other services required in the Purchaser's Country to convey the Goods to their final destination	Cost of local labor, raw materials and components from with origin in the Purchaser's Country % of Col. 5	Sales and other taxes payable per line item if Contract is awarded (in accordance with ITB 14.8(a)(ii))	Total Price per line item (Col. 6+7)
<i>[insert number of the item]</i>	<i>[insert name of Good]</i>	<i>[insert quoted Delivery Date]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert EXW unit price]</i>	<i>[insert total EXW price per line item]</i>	<i>[insert the corresponding price per line item]</i>	<i>[Insert cost of local labor, raw material and components from within the Purchase's country as a % of the EXW price per line item]</i>	<i>[insert sales and other taxes payable per line item if Contract is awarded]</i>	<i>[insert total price per item]</i>
								Total Price	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Price and Completion Schedule - Related Services

Currencies in accordance with ITB 15						Date: _____ RFB No: _____ Alternative No: _____ Page N° _____ of _____
1	2	3	4	5	6	7
Service N°	Description of Services (excludes inland transportation and other services required in the Purchaser's Country to convey the goods to their final destination)	Country of Origin	Delivery Date at place of Final destination	Quantity and physical unit	Unit price	Total Price per Service (Col. 5*6 or estimate)
<i>[insert number of the Service]</i>	<i>[insert name of Services]</i>	<i>[insert country of origin of the Services]</i>	<i>[insert delivery date at place of final destination per Service]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert unit price per item]</i>	<i>[insert total price per item]</i>
Total Bid Price						

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert date]*

Section V - Eligible Countries

Eligibility for the Provision of Goods, Works and Non-Consulting Services in Bank-Financed Procurement

In reference to ITB 4.8 and ITB 5.1, for the information of the Bidders, at the present time firms, goods and services from the following countries are excluded from this Bidding process:

Under ITB 4.8 (a) and ITB 5.1: *Israel*.

Under ITB 4.8(b) and ITB 5.1: None.

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Section VI - Fraud and Corruption

(Section VI shall not be modified)

1. Purpose

1.1 The Bank’s Anti-Corruption Guidelines and this annex apply with respect to procurement under Bank Investment Project Financing operations.

2. Requirements

2.1 The Bank requires that Borrowers (including beneficiaries of Bank financing); bidders (applicants/proposers), consultants, contractors and suppliers; any sub-contractors, sub-consultants, service providers or suppliers; any agents (whether declared or not); and any of their personnel, observe the highest standard of ethics during the procurement process, selection and contract execution of Bank-financed contracts, and refrain from Fraud and Corruption.

2.2 To this end, the Bank:

a. Defines, for the purposes of this provision, the terms set forth below as follows:

- i. “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
- ii. “fraudulent practice” is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
- iii. “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
- iv. “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
- v. “obstructive practice” is:
 - (a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
 - (b) acts intended to materially impede the exercise of the Bank’s inspection and audit rights provided for under paragraph 2.2 e. below.

- b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring mis procurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- d. Pursuant to the Bank’s Anti-Corruption Guidelines, and in accordance with the Bank’s prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;¹ (ii) to be a nominated² sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project;
- e. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders (applicants/proposers), consultants, contractors, and suppliers, and their sub-contractors, sub-consultants, service providers, suppliers, agents, personnel, permit the Bank to inspect³ all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the Bank.

¹ For the avoidance of doubt, a sanctioned party’s ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and bidding, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

² A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

³ Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Bank or persons appointed by the Bank to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.

PART 2 – Supply Requirements

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Section VII - Schedule of Requirements

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1. List of Goods and Delivery Schedule

Lot-1: Supply, Installation and Commissioning of Computational Equipment for C4IR at BCC

Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date	
					Delivery Date	Bidder's offered Delivery date [to be provided by the Bidder]
1	Desktop	4	Nos	Enhancing Digital Government and Economy (EDGE) Project Bangladesh Computer Council (BCC), 7 th Floor, ICT Tower, Plot # E-14/X, Agargaon, Sher-e-Bangla Nagar, Dhaka – 1207, Bangladesh	20 weeks from the date of signing of Contracts for goods supplied from Purchaser's Country and from date of Opening of Letter of Credit (L/C) for the goods supplied from outside the Purchaser's Country as the case be.	
2	22" Full HD IPS Monitor	10	Nos			
3	Comfort Wireless Keyboard and Mouse Combo	10	Nos			
4	USB Powered Stereo Speaker	10	Nos			
5	Quest Pro - Virtual reality (VR) headset	5	Nos			
6	Primex 41- Motion tracking systems	4	Nos			
7	Primex 22- Motion tracking systems	4	Nos			
8	Artec Leo wireless and AI-driven 3D scanner Premium Pack	1	Nos			
9	HoloLens 2 Industrial Edition - Mixed Reality headset	3	Nos			

Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date	
					Delivery Date	Bidder's offered Delivery date [to be provided by the Bidder]
10	85" (QN900B) NEO QLED 8K Smart TV	5	Nos			
11	Vision Pro	3	Nos			
12	Clip Clamp LED Magnifying Glass with 3rd Helping Hand, Soldering Iron Stand, Magnifier Welding Rework Repair Holder Tools	5				
13	Powerful 10xGigabit port router with a Quad-core 1.4Ghz CPU, 1GB RAM, SFP+ 10Gbps cage, dual band 2.4GHz / 5GHz 4x4 MIMO 802.11a/b/g/n/ac wireless	2	Nos			
14	Server Rack Cabinet 600X450 mm	2	Nos			
15	28 Port Network Switch	4	Nos			
16	Cat-6, 305 Meter, Orange Network Cable	4	Coil			
17	Cat 6 RJ45 Cable Connector - Pack Of 100 Pieces	4	Packet			
18	Core i5 1235U 15.6 Inch FHD Display Spruce Blue Laptop	10	Nos			
19	55 Inch 4K Ultra HD Smart TV	4	Nos			

Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date	
					Delivery Date	Bidder's offered Delivery date [to be provided by the Bidder]
20	98" All In One 4K Ultra HD Flat Panel Interactive Display	2	Nos			
21	3 Pin 8 Port Grey Power Strip	20	Nos			
22	8" 220W PORTABLE PA SYSTEM	2	Nos			

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Lot-2: Supply, Installation and Commissioning of Robotic Equipment for C4IR at BCC

Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date	
					Delivery Date	Bidder's offered Delivery date [to be provided by the Bidder]
1.	ROS research rover robot for mapping, navigation, and manipulation	5	Nos	Enhancing Digital Government and Economy (EDGE) Project Bangladesh Computer Council (BCC), 7 th Floor, ICT Tower, Plot # E-14/X, Agargaon, Sher-e-Bangla Nagar, Dhaka – 1207, Bangladesh	20 weeks from the date of signing of Contracts for goods supplied from Purchaser's Country and from date of Opening of Letter of Credit (L/C) for the goods supplied from outside the Purchaser's Country as the case be.	
2.	Robot Arm for education and research with support for ROS	5	Nos			
3.	Quadruped robot with 3D LiDAR, five stereo depth cameras, and side-follow system for dog-like companionship + 2 set extra battery pack	2	Nos			
4.	ROS Robot Car with Vision Robotic Arm Powered by Jetson Nano Support SLAM Mapping/ Navigation/ Python	10	Nos			

Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date	
					Delivery Date	Bidder's offered Delivery date [to be provided by the Bidder]
5.	ROS Education AI Vision Humanoid Robot Powered by Raspberry Pi 4B Biped Inverse Kinematics Algorithm Learning Teaching Kit	10	Nos			
6.	ROS Hexapod Robot Kit Powered by Jetson Nano with Lidar Depth Camera Support SLAM Mapping and Navigation	10	Nos			
7.	JETSON NANO Robot Arm ROS Open source Vision Recognition Program Robot	10	Nos			
8.	Quadruped Robot with AI Vision Powered by Raspberry Pi ROS Open-Source Robot Dog	10	Nos			
9.	Collaborative Robot Arm - Industrial Robot	2	Nos			
10	RG2-FT Finger Gripper	1	Nos			
11	RG2 Finger Gripper	1	Nos			
12	2FG7 Finger Gripper	1	Nos			
13	2FGP20 Palletizer Gripper	1	Nos			

Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date	
					Delivery Date	Bidder's offered Delivery date [to be provided by the Bidder]
14	3FG15 Finger Gripper	1	Nos			
15	VG10 Vacuum Gripper	1	Nos			
16	VGC10 Vacuum Gripper	1	Nos			
17	Soft Gripper	1	Nos			
18	Robot Eyes/ FLEXIBLE, ADAPTABLE 2.5D VISION SYSTEM	3	Nos			
19	Sander	1	Nos			
20	3-qubit desktop NMR quantum computer	1	Nos			
21	2-qubit desktop NMR quantum computer	1	Nos			
22	58-inch 4K vertical digital touch screen kiosk	15	Nos			
23	Ultra Sharp 27 4K USB-C Hub Monitor	10	Nos			
24	Social humanoid robot	2	Set			

Lot- 3: Supply, Installation and Commissioning of IoT, Drone and Advance Equipment for C4IR at BCC

Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date	
					Delivery Date	Bidder's offered Delivery date [to be provided by the Bidder]
1.	T30 Agricultural Drone	2	Nos	Enhancing Digital Government and Economy (EDGE) Project Bangladesh Computer Council (BCC), 7 th Floor, ICT Tower, Plot # E-14/X, Agargaon, Sher-e-Bangla Nagar, Dhaka – 1207, Bangladesh	20 weeks from the date of signing of Contracts for goods supplied from Purchaser's Country and from date of Opening of Letter of Credit (L/C) for the goods supplied from outside the Purchaser's Country as the case be.	
2.	Coaxial Octocopter Delivery Combo	2	Nos			
3.	Pro Triple-Camera Drone	1	Nos			
4.	FDM 3d printer ,1000*1000*1000 large size 3d printer	1	Nos			
5.	Kobra Max 3D Printer	5	Nos			
6.	Photon M3 Max	2	Nos			
7.	Sweetin 3D Food Printer	2	Nos			
8.	CFZ-1000 Artificially intelligent Smart Fridge Vending Machine With PAX Card Reader	1	Nos			
9.	Touch screen smart mirror display	3	Nos			
10.	Nest Hub Max	2	Nos			
11.	Nest Audio (Charcoal)	5	Nos			
12.	Nest Protect Smoke Alarm (Wired)	5	Nos			
13.	Nest x Yale Lock	2	Nos			
14.	Nest Cam with floodlight (wired)	2	Nos			

Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date	
					Delivery Date	Bidder's offered Delivery date [to be provided by the Bidder]
15.	Mixed Domain Oscilloscope (MOD) features up to six integrated instruments, including options like a spectrum analyzer, function generator	5	Nos			
16.	120MHz 2Ch Advanced-Series Arbitrary Waveform Generator	5	Nos			
17.	Digital Multimeter	10	Nos			
18.	30V 5A Programmable DC Power Supply	10	Nos			
19.	90W Temperature Adjustable 220V Digital Soldering Iron Kit 20 in 1 Set	20	Set			
20.	2 In 1 SMD Rework and Soldering Station with digital LCD display	20	Set			
21.	186 pieces 16.8 Volt Electric Combo Kit Portable Lithium Battery Set Brushless Power Tools Combo Kit Cordless	3	Set			
22.	High Quality 138pcs toolkit set for mechanical, home electrical maintenance and repairing works	3	Set			
23.	High Quality 138PCS tools kit toolkit set hardware diy tool mechanical home electrical maintenance repairing.	3	Set			

Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date	
					Delivery Date	Bidder's offered Delivery date [to be provided by the Bidder]
24.	Adjustable pcb holder circuit board, 360 degree rotating, fixture welding bracket fixture welding repair tool	5	Set			
25.	65-piece Electrician Tool Set Telecommunications Maintenance Tools Electrician Advanced Maintenance Tools set	5	Set			
26.	Digital Temperature, Humidity Meter 1.5M Probe	20	Nos			
27.	Outdoor Gateway - LoRaWAN EU868MHz	10	Nos			
28.	Sensor Hub 4G Data Logger - with built-in rechargeable battery version	15	Nos			
29.	M1 LoRaWAN Indoor Gateway - EU868	4	Nos			
30.	Industrial Soil Moisture & Temperature Sensor MODBUS-RTU RS485, 0-2V Analog Voltage (S-Soil MT-02A)	20	Nos			
31.	Industrial Soil Moisture & Temperature Sensor MODBUS-RTU RS485, 0-2V Analog Voltage (S-Soil MT-02B), with waterproof aviation connector	20	Nos			
32.	Industrial Soil Moisture & Temperature & EC Sensor	20	Nos			

Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date	
					Delivery Date	Bidder's offered Delivery date [to be provided by the Bidder]
	MODBUS-RTU RS485 (S-Soil MTEC-02A)					
33.	Industrial Soil Moisture & Temperature & EC Sensor MODBUS-RTU RS485 (S-Soil MTEC-02B), with waterproof aviation connector	20	Nos			
34.	Industrial pH Sensor MODBUS-RTU RS485 & 0~2V Analog Voltage (S-pH-01A) V2.0	20	Nos			
35.	Industrial-Grade Optical Rain Gauge RG-15 Rain Sensor	10	Nos			
36.	High-efficiency Waterproof PV-12W Solar Panel, w/ Brackets for Easy Installation	20	Nos			
37.	Industrial Leaf Wetness and Temperature Sensor (S-YM-01B), MODBUS RTU RS485, with Waterproof Aviation Connector	10	Nos			
38.	ONE S700 7-in-1 Compact Weather Sensor	6	Nos			
39.	ONE S900 9-in-1 Compact Weather Sensor	4	Nos			
40.	S2101- LoRaWAN® Air Temperature and Humidity Sensor - Ambient Air Temperature Sensor	20	Nos			

Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date	
					Delivery Date	Bidder's offered Delivery date [to be provided by the Bidder]
41.	S2102 - LoRaWAN Wireless Light Intensity Sensor	20	Nos			
42.	S2103 LoRaWAN® CO2, Temperature, and Humidity Sensor for Outdoor & Indoor Air Quality, CO2 Meter, Carbon Emission	20	Nos			
43.	S2104 - LoRaWAN® Soil Moisture and Temperature Sensor	20	Nos			
44.	S2100 - LoRaWAN® Data Logger, Supports RS485/Analog/GPIO Interfaces, LoRaWAN Converter	20	Nos			
45.	S2105 - LoRaWAN® Soil Moisture, Temperature and EC Sensor	20	Nos			
46.	S2120 8-in-1 LoRaWAN Weather Sensor	10	Nos			
47.	A1101 - LoRaWAN Vision AI Sensor, Open the Door to the TinyML world	20	Nos			
48.	RS485 Temperature and Humidity Sensor - Connector	20	Nos			
49.	Industrial-grade MODBUS RS485 Temperature and Humidity Sensor	20	Nos			
50.	Industrial EC & TDS Sensor MODBUS-RTU RS485 & 0-2V	20	Nos			

Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date	
					Delivery Date	Bidder's offered Delivery date [to be provided by the Bidder]
51.	Industrial-grade MODBUS RS485 NH3 Sensor - with Waterproof Aviation Connector	20	Nos			
52.	Liquid Level Sensor for Water Level, Oil Level and Mild-corrosive Liquid Level Monitoring	20	Nos			
53.	reTerminal DM (with Camera & PoE) - Raspberry Pi CM4-powered 10.1" Integrated Device Master, Industrial Grade HMI/PLC/Panel PC/Gateway All-in-one, Node-RED Integrated	6	Nos			
54.	SenseCAP Indicator D1, 4-Inch Touch Screen IoT development platform powered by ESP32S3 & RP2040	20	Nos			
55.	ReSpeaker USB Mic Array	10	Nos			
56.	reServer i51135- Compact Edge Server powered by 11th Gen Intel® Core™ i5 1135G7	4	Nos			
57.	ESP32-S2-DevKitM-1	100	Nos			
58.	ESP32-S2-KALUGA-1	50	Nos			
59.	T1000-A LoRaWAN Tracker for Indoor and Outdoor Positioning	30	Nos			
60.	E5 Location Beacon for T1000 Tracker	30	Nos			

Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date	
					Delivery Date	Bidder's offered Delivery date [to be provided by the Bidder]
61.	Creator Kit -Y/ 40 Grove functional modules in one box	30	Set			
62.	Kit for Win10 IoT Core & Azure Platform	30	Set			
63.	D3 Kit - A Comprehensive Kit for Education	30	Set			
64.	Orion Nano Developer Kit	30	Set			
65.	reComputer J4011-Edge AI Device with NVIDIA Jetson Orin™ NX 8GB module, 4xUSB 3.2, M.2 Key E & Key M Slot, Aluminum case, Pre-installed JetPack System with NVIDIA JetPack™ on 128GB NVMe SSD	30	Set			
66.	Raspberry Pi 4B - Desktop Kit - 4GB	30	Set			
67.	M2M2 - 360° Laser Mapping Sensor (40m)	10	Nos			
68.	10 I/Os PLC Module - CPU ESP32 (Optoisolated Output)	10	Nos			
69.	4-20SC-MaxSonar-WRMI MB7789 Ultrasonic Distance Sensor	10	Nos			
70.	A DIY Water Monitoring Basic Kit	10	Set			
71.	Weather Station Kit with Anemometer/Wind Vane/Rain Bucket	10	Set			

Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date	
					Delivery Date	Bidder's offered Delivery date [to be provided by the Bidder]
72.	Science Data Acquisition Module Kit for Experiments Education	10	Set			
73.	Mass Air Flow Sensor	25	Nos			
74.	Factory Calibrated Electrochemical Oxygen / O2 Sensor (0-25% Vol, I2C & UART)	25	Nos			
75.	BLE Sensor Beacon Pack (5 PCS)	25	Nos			
76.	Liquid Flow Sensor (G1/4)	25	Nos			
77.	Analog Dissolved Oxygen Sensor / Meter Kit for Arduino	25	Nos			
78.	Analog Turbidity Sensor for Arduino	25	Nos			
79.	Arduino UNO R3 Original Development Board ATmega328P CH340	200	Nos			
80.	Arduino MEGA2560 R3 Development Board	200	Nos			

2. List of Related Services and Completion Schedule

[This table shall be filled in by the Purchaser. The Required Completion Dates should be realistic, and consistent with the required Goods Delivery Dates (as per Incoterms)] - Not Applicable.

Service	Description of Service	Quantity ¹	Physical Unit	Place where Services shall be performed	Final Completion Date(s) of Services
<i>[insert Service No]</i>	<i>[insert description of Related Services]</i>	<i>[insert quantity of items to be supplied]</i>	<i>[insert physical unit for the items]</i>	<i>[insert name of the Place]</i>	<i>[insert required Completion Date(s)]</i>

1. If applicable

3. Technical Specifications

For Lot-1: Supply, Installation and Commissioning of Computational Equipment for C4IR at BCC

1. ITEM NAME: Desktop

Quantity: 04 Nos

Sl.	Feature	Requirement of Purchaser
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Graphics Card	GB Amplified Performance for Professionals, Ampere Architecture, CUDA Parallel Processing Cores-8,192, Tensor Cores-256, RT Cores-64, Single-Precision Performance-27.8 TFLOPS, RT Core Performance-54.2 TFLOPS, Tensor Performance-222.2 TFLOPS, Frame Buffer Memory-24 GB GDDR6 with ECC, Memory Interface-384-bit, Memory Bandwidth-768 GB/s, Max Power Consumption-230 W, Graphics Bus - PCI Express 4.0 x 16, Display Connectors- DP 1.4 (4), Form Factor-4.4" H x 10.5" L Dual Slot, Product Weight-1.025 kg, Thermal Solution- Active, Power Connector-1x 8-pin PCIe, Frame lock- Compatible (with Quadro Sync II), NVLink Interconnect-112.5 GB/s (bidirectional)
4.	Motherboard	<ul style="list-style-type: none"> - ATX, Intel Socket LGA1700 for 13th Gen Intel Core & 12th Gen Intel Core, Pentium Gold and Celeron Processors - Supports Intel Turbo Boost Technology 2.0 and Intel Turbo Boost Max Technology 3.0 CPU. - Intel Z790 Chipset - 256 Mb Flash ROM, UEFI AMI BIOS - ATX Form Factor - 12 inch x 9.6 inch (30.5 cm x 24.4 cm) - 7.1 Surround Sound High-Definition Audio CODEC ALC4080 - Impedance sense for front and rear headphone outputs - Supports: Jack-detection, Multi-streaming, Front Panel Jack-retasking - High quality 120 dB SNR stereo playback output and 113 dB SNR recording input - Supports up to 32-Bit/384 kHz playback* - Audio Features

Sl.	Feature	Requirement of Purchaser
		<ul style="list-style-type: none"> - SupremeFX Shielding Technology - Savitech SV3H712 AMP - Rear optical S/PDIF out port - Premium audio capacitors - Audio cover - Intel 13th & 12th Gen Processors - 1 x PCIe 5.0 x16 slot - Intel Z790 Chipset - 2 x PCIe 4.0 x16 slots (support x4 mode) - 1 x PCIe 3.0 x1 slot - Type : DDR5 - Slots : 4 x DIMM - Supported Memory: 7800+(OC)/ 7600(OC)/ 7400(OC)/ 7200(OC)/ 7000(OC)/ 6800(OC)/ 6600(OC)/ 6400(OC)/ 6200(OC)/ 6000(OC)/5800(OC)/ 5600/ 5400/ 5200/ 5000/ 4800 - Non-ECC, Un-buffered Memory - Dual Channel Memory Architecture - Supports Intel Extreme Memory Profile (XMP) - OptiMem II - Maximum Memory: 128GB - 1 x DisplayPort (Supports max. 8K@60Hz as specified in DisplayPort 1.4.) - 1 x HDMI port (Supports 4K@60Hz as specified in HDMI 2.1.) - 1 x HDMI port - 1 x DisplayPort - 1 x USB 3.2 Gen 2x2 port (1 x USB Type-C) 3 x USB 3.2 Gen 2 ports (2 x Type-A + 1 x USB Type-C) 4 x USB 3.2 Gen 1 ports (4 x Type-A) 4 x USB 2.0 ports (4 x Type-A) - 1 x Intel 2.5Gb Ethernet ASUS LANGuard - Wi-Fi 6E 2x2 Wi-Fi 6E (802.11 a/b/g/n/ac/ax) Supports 2.4/5/6GHz frequency band* Bluetooth v5.3 - Total supports 4 x M.2 slots and 4 x SATA 6Gb/s ports Intel 13th & 12th Gen Processors - M.2_1 slot (Key M), type 2242/2260/2280/22110 (supports PCIe 4.0 x4 mode)

Sl.	Feature	Requirement of Purchaser
		<ul style="list-style-type: none"> - Intel Rapid Storage Technology supports PCIe RAID 0/1/5/10, SATA RAID 0/1/5/10. - 5 x Gold-plated audio jacks - Internal I/O Ports- Fan and Cooling related <ul style="list-style-type: none"> 1 x 4-pin CPU Fan header 1 x 4-pin CPU OPT Fan header 1 x 4-pin AIO Pump header 5 x 4-pin Chassis Fan headers Power related <ul style="list-style-type: none"> 1 x 24-pin Main Power connector 2 x 8-pin +12V Power connectors Storage related <ul style="list-style-type: none"> 4 x M.2 slots (Key M) 4 x SATA 6Gb/s ports USB <ul style="list-style-type: none"> 1 x USB 3.2 Gen 2x2 connector (supports USB Type-C with up to 30W PD Fast-charge) 1 x USB 3.2 Gen 1 header supports 2 additional USB 3.2 Gen 1 ports 2 x USB 2.0 headers support 4 additional USB 2.0 ports - Miscellaneous <ul style="list-style-type: none"> 3 x Addressable Gen 2 headers 1 x Aura RGB header 1 x CPU Over Voltage jumper 1 x Front Panel Audio header (AAFP) 1 x 20-3 pin System Panel header with Chassis intrude function 1 x Start button 1 x Thermal Sensor header 1 x Thunderbolt header
5.	CPU Cooler	<ul style="list-style-type: none"> - 360mm Elite Capellix Liquid CPU Cooler Type - Fan Speed-2400 RPM - Fan Airflow-75 CFM - Noise- 10 - 37 dBA - Air Pressure- 4.2 mm-H2O - Connector- PWM - LED Number RGB - Cold Plate Material: Copper - Radiator Material: Aluminum

Sl.	Feature	Requirement of Purchaser
		<ul style="list-style-type: none"> - Fan Dimensions: 120mm x 25mm Coldplate Dimensions: 56 x 56mm Radiator Dimensions: 397mm x 120mm x 27mm
6.	Tower Case	<ul style="list-style-type: none"> - Tempered Glass Snow ARGB Edition Full - 6.7" X 6.7" (Mini ITX), 9.6" X 9.6" (Micro ATX), 12" X 9.6" (ATX), 12" X 10.5" (E-ATX) - Exterior & Interior: Black - 2 X 2.5" (With HDD Bracket) 2 X 3.5" Or 2.5" (With HDD Cage) Drive Bay - 8 Expansion Slots - 1 X USB 3.1 (Gen 2) Type C, 2 X USB 2.0, 2 X USB 3.0, 1 X HD Audio, 1 X RGB Button port - 3 X Tempered Glass (4mm Thickness) Side Panel - Front: <ul style="list-style-type: none"> 2 X 200mm Or 1 X 200mm 3 X 140mm Or 2 X 140mm Or 1 X 140mm 3 X 120mm Or 2 X 120mm Or 1 X 120mm Fan Top: <ul style="list-style-type: none"> 2 X 200mm Or 1 X 200mm 3 X 140mm Or 2 X 140mm Or 1 X 140mm 3 X 120mm Or 2 X 120mm Or 1 X 120mm Fan Rear: <ul style="list-style-type: none"> 1 X 120mm ,Fan Right: <ul style="list-style-type: none"> 3 X 120mm Or 2 X 120mm Or 1 X 120mm 2 X 140mm Or 1 X 140mm Fan - Standard PS2 PSU (Optional) - Radiator <ul style="list-style-type: none"> Front: <ul style="list-style-type: none"> 1 X 360mm Or 1 X 240mm Or 1 X 120mm 1 X 280mm Or 1 X 140mm Top: <ul style="list-style-type: none"> 1 X 360mm Or 1 X 240mm Or 1 X 120mm 1 X 280mm Or 1 X 140mm Right: <ul style="list-style-type: none"> 1 X 360mm Or 1 X 240mm Or 1 X 120mm 1 X 280mm Or 1 X 140mm Bottom: <ul style="list-style-type: none"> 1 X 360mm Or 1 X 240mm Or 1 X 120mm - SPCC Material

Sl.	Feature	Requirement of Purchaser
		<ul style="list-style-type: none"> - Dimensions 565 X 255 X 530mm (22.2 X 10 X 20.9 Inch) - Weight 14.95 Kg / 32.96 Lb
7.	Power Supply	<ul style="list-style-type: none"> - Full Modular 80 Plus Gold Power Supply - Efficiency (Approx.) 90% @ Typical Load - 80 PLUS Gold certification - Fan Size 140mm - Input Voltage: 100-240V Frequency Range: 47-63Hz Current: 13-6A - Output Modular Type: Full Modular Total Power: 80 PLUS Gold power Power Good Signal: 100 - 150 ms - Main Power: EPS 4+4 PIN CONNECTORS x 1 EPS 8 PIN CONNECTOR x 1 - CPU: ATX 24-PIN CONNECTORS x 1 PCI-E: PCI-E 6+2 PIN CONNECTORS x 6 SATA: 12 - FAN Bearing: FDB - FAN Speed: 2200 RPM - ATX Version: ATX 12V V2.52 - Active PFC - Dimensions (L X W X H): 180 x 150 x 86 mm Noise Level @ 20%: 0 dBA Noise Level @ 50%: 14.9 dBA Noise Level @ 100%: 27.3 dBA ERP 2014 LOT 3 - Operating Temperature: 0-50°C - HOLD UP TIME: >20ms at 100% Load - MTBF: >100,000 Hours - PROTECTIONS: OVP, OPP, OTP, SCP, OCP, UVP - REGULATORY: TUV, CE, CCC, EAC, RCM, cTUVus, FCC, BSMI - Wattage: Above 750W
8.	RAM	<ul style="list-style-type: none"> - 128 GB - Memory Type DDR5 - Bus-Speed 6000MHz - Dual Channel Kit

Sl.	Feature	Requirement of Purchaser
		<ul style="list-style-type: none"> - CL32-38-38-96 Latency - SPD Speed 4800MHz - SPD Voltage 1.10V - Voltage 1.30V - Registered/Unbuffered: Unbuffered - Error Checking: Non-ECC - 288-Pin - RGB Type - Intel XMP 3.0 (Extreme Memory Profile) Ready
9.	SSD	<ul style="list-style-type: none"> - 4TB 250H M.2 2280 NVMe PCIe Gen4x4 SSD - Read Speed up to 7,200 MB/s - Write Speed up to 6,700 MB/s - NVMe PCIe Gen4 x4 Interface - Product Type M.2 2280 - 4TB Capacity - up to 540,000/440,000 IOPS 4K Random Read/Write (IOMeter) - 1560 TBW - 3D NAND flash - Form Factor M.2 2280 - Operating Temperature 0°C (32°F) ~ 70°C (158°F) - Operating Voltage 3.3V±5% - MTBF 3,000,000 hour(s) - CE/FCC/BSMI/KC/RCM/UKCA Certified - Microsoft Windows 7 or later Operating System - Double-sided 80 mm x 22 mm x 3.77 mm - Weight 10g
10.	HDD	<ul style="list-style-type: none"> - Blue 4TB 3.5 Inch SATA 5400RPM Desktop - Buffer size 64 MB - Interface type SATA 6 Gb/s - Rotational speed 5400 RPM Class - Internal - Capacity 4000 GB - 5400 RPM
11.	Processor	<ul style="list-style-type: none"> - 13th Gen Core I9 Raptor Lake - 24 Cores - 32 Threads - Base Clock P-Core: 3.00 GHz P-Core Turbo: 5.80 GHz - 36 MB Smart Cache - LGA1700 Socket

Sl.	Feature	Requirement of Purchaser
		<ul style="list-style-type: none"> - Default TDP 125W - UHD Graphics 770 - Up to DDR5 5600 MT/s Up to DDR4 3200 MT/s Memory - Max Number of Channels 02
12.	Warranty	- 3Years

2. ITEM NAME: 22" Full HD IPS Monitor

Quantity: 10 Nos

Sl.	Feature	Requirement of Purchaser
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Screen Size	- 22"
4.	Active Display Size (HxV) (mm)	- 476.064 x 267.786
5.	Aspect Ratio	- 16:9
6.	Resolution	- 1,920 x 1,080
7.	Refresh Rate	- Max 75Hz
8.	Brightness (Typical, cd/m2)	- 250
9.	Viewing Angle (H/V)	- 178°/178°
10.	Response Time	- 5 (GTG)
11.	Color Support	- Max 16.7M
12.	D-Sub	- 1
13.	HDMI	- 1
14.	HDMI Version	- 1.4
15.	HDCP Version (HDMI)	- 1.2
16.	Color	- Black
17.	Power Supply	- AC 240V

Sl.	Feature	Requirement of Purchaser
18.	Power Consumption (Max, W)	- 25W
19.	Type	- External Adaptor
20.	Dimension with Stand (WxHxD, mm)	- 488.4 x 394.1 x 217.4
21.	Weight with Stand (kg)	- 2.4
22.	Box Contents	- Power Adapter with 1.5M Cable, HDMI to HDMI Cable
23.	Warranty	- 2 Years

3. ITEM NAME: Comfort Wireless Keyboard and Mouse Combo

Quantity: 10 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Dimensions	<ul style="list-style-type: none"> - Keyboard: - Height: 7.35 in (186.7 mm) - Width: 17.61 in (447.2 mm) - Depth: 0.84 in (21.4 mm) - Weight: 21.27 oz (603 g) - Mouse: - Height: 4.15 in (105.4 mm) - Width: 2.67 in (67.9 mm) - Depth: 1.51 in (38.4 mm) - Weight: 3.05 oz (86.4 g) - Nano receiver: - Height: 0.74 in (18.7 mm) - Width: 0.91 in (23.1 mm) - Depth: 0.26 in (6.6 mm) - Weight: 0.07 oz (2 g)
4.	Technical Specifications	- Keyboard:

Sl.	Feature	Requirement of Procuring Entity
		<ul style="list-style-type: none"> - Spill-resistant design 1 Tested under limited conditions (maximum of 60 ml liquid spillage). Do not immerse the keyboard in liquid. - Adjustable height -tilt legs - Special Keys: Music Controls - Palm Rest - 10-Key Number pad - Key type: Deep profile - On/Off power switch - 2 AAA batteries (Alkaline Battery) - Mouse: - Sensor Technology: High-precision Optical tracking - Number of Buttons: 3 (Left/Right-click, Middle click) - Scrolling: line-by-line - Scroll Wheel: Yes, 2D , mechanical - Connect/Power: On/Off power button - 1 AA battery
5.	In the Box	<ul style="list-style-type: none"> - Keyboard with 2 AAA batteries - Mouse with 1 AA battery - USB receiver - User documentation
6.	Warranty	<ul style="list-style-type: none"> - 1 Year

4. ITEM NAME: USB Powered Stereo Speaker

Quantity: 10 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	RMS/Channel (Watt)	1.2Watt x 2
4.	Output Power	- 2.4Watt
5.	Color	- White
6.	Dimensions	- 110 x 90 x 88mm
7.	Weight	- 0.25 kg
8.	Wired	- Yes
9.	Warranty	- 01 Year

5. ITEM NAME: Quest Pro - Virtual reality (VR) headset

Quantity: 05 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	VR equipment
4.	Quantity	- 5 Units
5.	Product Dimensions:	- 265mm (L) x 127mm (H) x 196mm (W) 265mm - length assumes minimum strap setting
6.	Product Weight:	- 722g
7.	Dimensions:	- 130 x 70 x 62mm
8.	Weight:	- 153g (per controller)
9.	Processor:	- Qualcomm Snapdragon 662 mobile processor per controller
10.	Controller Tracking:	- SLAM with 3 camera sensors per controller Built-in rechargeable batteries, up to 10 hours of controller battery life

Sl.	Feature	Requirement of Procuring Entity
11.	Display Panels:	- 2 x LCD panels with local dimming backlight
12.	Field of view (claimed):	- 106° Horizontal × 96° Vertical
13.	Eye relief adjustment:	- Allows you to adjust the lens distance from your eyes with a new eye relief dial to optimize fit, face tracking and viewing experience. - Lens spacing: Mechanical continuous lens spacing adjustment for better visual quality and less eye strain.
14.	Storage	- 256GB ROM - 12GB RAM
15.	Sensors	- 10 advanced VR/MR sensors to support 6 degrees of freedom inside-out SLAM tracking, as well as color mixed reality and eye/face tracking.

6. ITEM NAME: Primex 41- Motion tracking systems

Quantity: 04 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	AR/VR equipment
4.	Quantity	- 4 Units
5.	Image Sensor	- Resolution: 2048 × 2048 - Native Frame Rate: 180 Hz - Latency: 5.5 ms
6.	Tracking Performance & Range	- 3D Accuracy: +/- 0.10 mm - Passive Markers: 30 m (100') - Active Markers: 45 m (150')
7.	Global Shutter	- Default Speed: 0.25 ms - Minimum Speed: 0.01 ms - Maximum Speed: 4.0 ms at 250 fps
8.	LED Ring	- 20 LEDs - Ultra-High Power - 850 nm infrared
9.	Lens & Filter	- Adjustable focus - Adjustable F-stop

Sl.	Feature	Requirement of Procuring Entity
		<ul style="list-style-type: none"> - 850 nm band-pass filter - 12 mm F#1.8 - 51° horizontal FOV - 51° vertical FOV
10.	Size & Weight	<ul style="list-style-type: none"> - Width: 4.96 inches (12.6 cm) - Depth: 5.19 inches (13.2 cm) - Height: 4.96 inches (12.6 cm) - Weight: 3.0 pounds (1.36 kg)
11.	Camera Body	<ul style="list-style-type: none"> - Sculpted from aluminum and polycarbonate. - 1/4"-20 tripod thread (×2) - 2-digit numeric LEDs status indicators - Full-color LED health and activity indicator

7. ITEM NAME: Primex 22- Motion tracking systems

Quantity: 04 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	AR/VR equipment
4.	Quantity	- 4 Units
5.	Image Sensor	<ul style="list-style-type: none"> - Resolution: 2048 × 1088 - Native Frame Rate: 360 Hz - Latency: 2.8 ms
6.	Tracking Performance & Range	<ul style="list-style-type: none"> - 3D Accuracy: +/- 0.15 mm - Passive Markers: 21 m (70') - Active Markers: 30 m (100')
7.	Global Shutter	<ul style="list-style-type: none"> - Default Speed: 0.25 ms - Minimum Speed: 0.01 ms - Maximum Speed: 2.5ms at 360 fps
8.	LED Ring	<ul style="list-style-type: none"> - 20 LEDs - Ultra-High Power - 850 nm infrared
9.	Lens & Filter	<ul style="list-style-type: none"> - Adjustable focus - Adjustable F-stop

Sl.	Feature	Requirement of Procuring Entity
		<ul style="list-style-type: none"> - 850 nm band-pass filter - 6.5 mm F#1.6 - 79° horizontal FOV - 47° vertical FOV
10.	Size & Weight	<ul style="list-style-type: none"> - Width: 4.96 inches (12.6 cm) - Depth: 4.19 inches (10.7 cm) - Height: 4.96 inches (12.6 cm) - Weight: 2.77 pounds (1.26 kg)
11.	Camera Body	<ul style="list-style-type: none"> - Sculpted from aluminum and polycarbonate. - 1/4"-20 tripod thread (×2) - 2-digit numeric LEDs status indicators - Full-color LED health and activity indicator

8. ITEM NAME: Artec Leo wireless and AI-driven 3D scanner Premium Pack

Quantity: 01 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	AR/VR equipment
4.	Quantity	- 1 Unit
5.	Display	- Built-in touch panel screen
6.	Processing	- On-board real time processing
7.	Volume capture zone	- 160,000 cm [°]
8.	3D reconstruction rate, up to	- 80 FPS
9.	3D resolution, up to	- 0.2 mm
10.	3D point accuracy, up to	- 0.1 mm
11.	Color resolution	- 2.3 mp
12.	Structured-light source	- VCSEL
13.	Position sensors	- Built-in 9 DoF inertial system
14.	Multi-core processing	- NVIDIA Jetson TX2

Sl.	Feature	Requirement of Procuring Entity
15.	Power source	- In-built exchangeable battery
16.	Connectivity	- Wireless

9. ITEM NAME: HoloLens 2 Industrial Edition - Mixed Reality headset

Quantity: 03 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	AR/VR equipment
4.	Quantity	- 3 Units
5.	Display	<ul style="list-style-type: none"> - Optics: See-through holographic lenses (waveguides) - Resolution: 2k 3:2 light engines - Holographic density: >2.5k radiants (light points per radian) - Eye-based rendering: Display optimization for 3D eye position
6.	Sensors	<ul style="list-style-type: none"> - Head tracking: 4 visible light cameras - Eye tracking: 2 IR cameras - Depth: 1-MP Time-of-Flight (ToF) depth sensor - IMU: Accelerometer, gyroscope, magnetometer - Camera: 8-MP stills, 1080p30 video
7.	Audio and speech	<ul style="list-style-type: none"> - Microphone array: 5 channels - Speakers: Built-in spatial sound
8.	Human understanding	<ul style="list-style-type: none"> - Hand tracking: Two-handed fully articulated model, direct manipulation - Eye tracking: Real-time tracking - Voice: Command and control on-device; natural language with internet connectivity - Windows Hello: Enterprise-grade security with iris recognition
9.	Environment understanding	<ul style="list-style-type: none"> - 6DoF tracking: World-scale positional tracking - Spatial Mapping: Real-time environment mesh - Mixed Reality Capture: Mixed hologram and physical environment photos and videos

Sl.	Feature	Requirement of Procuring Entity
10.	Compute and connectivity	<ul style="list-style-type: none"> - SoC: Qualcomm Snapdragon 850 Compute Platform - HPU: Second-generation custom-built holographic processing unit - Memory: 4-GB LPDDR4x system DRAM - Storage: 64-GB UFS 2.1 - Wi-Fi: Wi-Fi 5 (802.11ac 2x2) - Bluetooth: 5 - USB: USB Type-C
11.	Fit	<ul style="list-style-type: none"> - Single size - Fits over glasses
12.	Weight	<ul style="list-style-type: none"> - 566 g
13.	Software	<ul style="list-style-type: none"> - Windows Holographic Operating System - Microsoft Edge - Dynamics 365 Remote Assist - Dynamics 365 Guides - 3D Viewer
14.	Power	<ul style="list-style-type: none"> - Battery life: 2–3 hours of active use - Charging: USB-PD for fast charging - Cooling: Passive (no fans) - Contains lithium batteries
15.	What's in the box	<ul style="list-style-type: none"> - HoloLens 2 device - Carrying case - Overhead strap - Microfiber cloth - Charger - USB-C® cable

10. ITEM NAME: 85" (QN900B) NEO QLED 8K Smart TV

Quantity: 05 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Display equipment
4.	Quantity	<ul style="list-style-type: none"> - 3 Units
5.	Dimension	<ul style="list-style-type: none"> - Package Size (WxHxD): 2097.0 x 1253.0 x 220.0 mm

Sl.	Feature	Requirement of Procuring Entity
		<ul style="list-style-type: none"> - Set Size with Stand (WxHxD): 1876.6 x 1146.1 x 341.4 mm - Set Size without Stand (WxHxD) :1876.6 x 1071.5 x 15.4 mm - Stand (Basic) (WxD) : 360.0 x 341.4 mm - VESA Spec: 600 x 400 mm
6.	Weight	<ul style="list-style-type: none"> - Package Weight: 71.1 kg - Set Weight with Stand: 54.8 kg - Set Weight without Stand: 43.8 kg
7.	Technology	<ul style="list-style-type: none"> - QLED
8.	Display	<ul style="list-style-type: none"> - Screen Size: 85" - Refresh Rate: 100Hz - Resolution: 7,680 x 4,320 - Screen Curvature: N/A - Anti-Reflection: Yes
9.	Video	<ul style="list-style-type: none"> - Picture Engine: Neural Quantum Processor 8K - One Billion Color: Yes - PQI (Picture Quality Index):5000 - HDR (High Dynamic Range): Quantum HDR 64x (65' 48x) - AI Streaming: N/A - HDR 10+: Certified(HDR10+ & HDR10+ GAMING) - AI Upscale: Yes - HLG (Hybrid Log Gamma):Yes - Contrast: Quantum Matrix Technology Pro - Color: 100% Colour Volume with Quantum Dot - Viewing Angle: Ultra Viewing Angle - Brightness/Color Detection: Brightness/Color Detection - Micro Dimming: Ultimate 8K Dimming Pro - Contrast Enhancer: Real Depth Enhancer - Auto Motion Plus: Yes - Film Mode: Yes - Motion Technology: Motion Xcelerator Turbo+ - Dynamic Refresh Technology: N/A - Clear Motion: LED Clear Motion - Noise Reduction: Yes - Expert Calibration: Yes - Smart Calibration: Basic/Professional - Filmmaker Mode (FMM): Yes

Sl.	Feature	Requirement of Procuring Entity
10.	Operating System	- Tizen™
11.	Audio	<ul style="list-style-type: none"> - Active Voice Amplifier: Yes - Adaptive Sound: Adaptive Sound+ - Object Tracking Sound: OTS Pro - Q-Symphony: Yes - Sound Output (RMS): 90W - Speaker Type: 6.2.4CH - Woofer: Yes - Multiroom Link: Yes - Bluetooth Audio: Yes - Dual Audio Support (Bluetooth): Yes
12.	Smart Feature	<ul style="list-style-type: none"> - TV to Mobile - Mirroring: Yes - Mobile to TV - Mirroring, DLNA: Yes - NFC on TV: N/A - TV Initiate Mirroring: Yes - Tap View: Yes - Video Communication: yes - SmartThings Hub: Yes - Multi-View: upto 4 videos - Sound Wall: Yes - Mobile Camera Support: Yes - 360 Video Player: Yes - 360 Camera Support: Yes - Easy Setup: Yes - App Casting: Yes - Bluetooth Low Energy: Yes - WiFi Direct: Yes - TV Sound to Mobile: Yes - Sound Mirroring: Yes - Ambience: Ambient Mode+ - Wireless Dex: Yes - Cloud Service: Yes
13.	Smart Service	<ul style="list-style-type: none"> - Far-Field Voice Interaction: Yes - Google Assistant Built-in: Yes - Works With Alexa: Yes - SmartThings App Support: Yes - SmartThings: Yes - Media Home: Yes
14.	Connectivity	- HDMI: 4

Sl.	Feature	Requirement of Procuring Entity
		<ul style="list-style-type: none"> - USB: 3 - HDMI (High Frame Rate): 4K 120Hz (for HDMI 1/2/3/4) - USB-C (Camera Only): 1 - Ethernet (LAN): Yes - Digital Audio Out (Optical): 1 - RF In (Terrestrial / Cable input): 1/0/0 - HDMI Quick Switch: Yes - Wireless LAN Built-in: Yes (WiFi6) - Bluetooth: Yes (BT5.2) - Anynet+ (HDMI-CEC): Yes

11. ITEM NAME: Vision Pro

Quantity: 03 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Smart Home equipment
4.	Quantity	- 3 Units
5.	Operating System	- VisionOS
6.	Lens Adjustment	- Fully Automatic
7.	Display Type	- Micro-OLED
8.	Total Pixels	- 23 million
9.	HDR	- Yes
10.	Refresh Rates	- 90/96 Hz
11.	Chipset	- Apple M2 (5nm)
12.	Color Cameras	- 2x High-Res
13.	Depth Sensors	- LiDAR + TrueDepth
14.	Eye & Face Tracking	- Yes
15.	Battery Life	- 2 hours
16.	Front Display	- Yes

Sl.	Feature	Requirement of Procuring Entity
17.	Microphones	- 6
18.	Authentication	- OpticID

12. ITEM NAME: Clip Clamp LED Magnifying Glass with 3rd Helping Hand, Soldering Iron Stand, Magnifier Welding Rework Repair Holder Tools

Quantity: 05 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Size	- 270*210*42mm
4.	Magnification	- 5X
5.	Color	- Black
6.	Diameter of glass lens	- 90MM
7.	Packing	- PP bag, foam bag, color box
8.	Gross weight	- 493g
9.	Product weight	- 455g
10.	Mirror size	- 90mm
11.	Magnification	- 5x
12.	Package dimensions	- 122*65*128mm
13.	Working desk size	- 84*109*147mm
14.	Features	<ul style="list-style-type: none"> - Magnifier - Alligator clip with protective cover - Storage tray - Fixed height adjustment - Metal Steel Pipe - Fixed width adjustment - Thickened steel base
15.	Warranty	- 2 Years

13. ITEM NAME: Powerful 10xGigabit port router with a Quad-core 1.4Ghz CPU, 1GB RAM, SFP+ 10Gbps cage, dual band 2.4GHz / 5GHz 4x4 MIMO 802.11a/b/g/n/ac wireless

Quantity: 02 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Data Transfer Rate (Wifi)	- 2000 Mbps
4.	WiFi Network Standards	- 5GHz: 802.11a/n/ac 2.4GHz: 802.11b/g/n
5.	LAN Network Standard	- 10/100/1000
6.	WAN Network Standard	- 10/100/1000
7.	Data Transfer Rate (Lan)	- 1000 Mbps
8.	Data Transfer Rates	- 2000Mbps (1733 + 300)
9.	CPU	- AL21400 4 Core
10.	RAM	- 1GB
11.	Storage	- 512MB
12.	Interface(s)	- 10 x 10/100/1000 Mbps LAN, 1 x SFP+
13.	Number of LAN Port	- 10
14.	Antenna (Type & Qty)	- 4 x 3dBi External antenna
15.	Wi-Fi Generation	- Wi-Fi 5
16.	Band	- Dual
17.	Wi-Fi Coverage (Approximate)	- Up to 2500 sq. ft.
18.	Number of Concurrent User	- Up to 20 User Connections
19.	MIMO Technology	- Yes
20.	OS Compatibility	- RouterOS (v7 only)
21.	Power	- 12-57V
22.	Operating Temperature	- -40 Degree C - 45 Degree C
23.	Dimensions	- 228 x 120 x 30mm

Sl.	Feature	Requirement of Procuring Entity
24.	Color	- Black
25.	Warranty Details	- 1 Year (Without Adapter)

14. ITEM NAME: Server Rack Cabinet 600X450 mm

Quantity: 02 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Dimensions	- 600 x 450 x 501mm (Width x Dept. x Height)
4.	Fans	- 2 x 4-inch Fan (Low Noise) on Vented Top Flush Panel
5.	Doors	- 2 x Side Door with Cam Lock Front Door –Glass with Cam Lock
6.	Panel Mount	- 4 x Panel Mount with Unit Indication
7.	Mounting	- 1 x Integrated Wall Mounting Panel
8.	Power Distribution Unit	- 1 x Power Distribution Unit (6 Way PDU)
9.	Hardware	- 1 Packet of M6 Cage Nuts Assembly
10.	Finish	- Finish with Epoxy Powder Coating
11.	Type	- Wall Mount Equipment Rack
12.	Color	- Black
13.	Standards	- Comply with ANSI/EIA RS-310-D, IEC297-2, DIN41494; PART1, DIN41494;PART7, ETSI standard.
14.	Frame	- Welded frame, reliable structure;
15.	Installation	- Standing or wall mounting installation;
16.	Options	- Adjustable feet and heavy-duty castors are optional;
17.	Installation	- Easy mounting installation (patent);
18.	Standard	- 19” standard installation;
19.	Panels	- Removable side panels, side locks optional;

Sl.	Feature	Requirement of Procuring Entity
20.	Cable Entry	- Cable entry on both of top cover and bottom panel;
21.	Fan	- 120mm fan available;
22.	Door	- Turning angle of front door is over 180 degrees.
23.	Material	- SPCC cold rolled steel;
24.	Thickness	- mounting profile 2.0mm, mounting angle 1.5mm, others 1.2mm.
25.	Finish	- Degreasing, pickling, phosphoric, powder coated;
26.	Protection	- Degree of protection: IP20
27.	Warranty	- 2 Years

15. ITEM NAME: 28 Port Network Switch

Quantity: 04 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Port	- 28 Port
4.	Number of Total Port	- 24 Port
5.	Gigabit Port	- 2
6.	SFP Port	- 2
7.	PoE+ Port	- 24
8.	PoE	- Yes
9.	Manageability	- Managed
10.	Interface(s)	- 24 x 10/100 PoE+ ports (4 support 60W PoE), 2 x 10/100/1000 Ethernet Combo, 2 x 10/100 SFP
11.	MTBF	- 293029 Hours
12.	Fan/Fanless	- 2 x Fan
13.	Indicators	- Yes
14.	Body Color	- Black

Sl.	Feature	Requirement of Procuring Entity
15.	Form Factor	- Desktop/Rackmount
16.	Dimension	- 440 x 44 x 257mm
17.	Weight	- 4.08 kg
18.	Power Supply	- 100 - 240 VAC, 50/60 Hz
19.	Warranty Details	- 1 Year (Without Adapter)

16. ITEM NAME: Cat-6, 305 Meter, Orange Network Cable

Quantity: 04 Coil

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Length	- 305 Meter
4.	Connector Type	- RJ45
5.	Product Type	- Round Cable
6.	Network Speed	- 1000Mbps
7.	Channel Bandwidth	- 250MHz
8.	Jacket Material	- PVC
9.	Cable Shielding	- UTP (Unshielded Twisted Pair)
10.	AWG	- 23AWG
11.	Color	- Orange
12.	Warranty Details	- No warranty
13.	Others	- Nominal Velocity of Propagation: 69%, Resistance Unbalance: 5% Max, Delay Skew: < 45nS, Pulling Force: 11.5Kg

17. ITEM NAME: Cat 6 RJ45 Cable Connector - Pack Of 100 Pieces

Quantity: 04 Packet

Sl.	Feature	Requirement of Procuring Entity
14.	Brand	To be mentioned by the bidder
15.	Country of Origin	To be mentioned by the bidder
16.	RJ45 modular plug supports 4 twisted pairs	- meet wiring scheme
17.	Housing	- polycarbonate, 94V-2, transparent color
18.	Contact terminal	- phosphor bronze
19.	Finished	- 50 micro-inch gold plating, over 50 micro inch Nickel plated on contact area
20.	Operating temperature	- -40°C to 80°C
21.	Cable to plug tensile strength	- 7.7 kgs
22.	Terminates	- 24-26 AWG stranded wires, wiring scheme T568A/T568B

18. ITEM NAME: Core i5 1235U 15.6 Inch FHD Display Spruce Blue Laptop

Quantity: 10 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Processor Model	- Core i5-1235U
4.	Generation	- 12th Gen
5.	Processor Frequency	- up to 4.40 GHz
6.	Processor Core	- 10 Core (Performance-cores-2 , Efficient-cores-8)
7.	Processor Thread	- 12
8.	CPU Cache	- 12 MB
9.	Chipset Model	- Intel Integrated SoC
10.	Display Size	- 15.6 Inch

Sl.	Feature	Requirement of Procuring Entity
11.	Display Resolution	- HD (1366 x 768)
12.	Display Features	- Micro-edge, Anti-glare, 250 nits, 45% NTSC
13.	RAM	- 8 GB (4GBx2)
14.	RAM Type	- DDR4
15.	Removable	- Yes
16.	Bus Speed	- 3200Mhz
17.	Total RAM Slot	- 2
18.	Max RAM Capacity	- 32GB
19.	Storage Type	- PCIe NVMe M.2 SSD
20.	Storage Capacity	- 512 GB
21.	Storage Upgrade	- Installed SSD can be upgradeable
22.	Graphics Model	- Intel Iris Xe Graphics
23.	Graphics Memory	- Shared
24.	Keyboard Type	- Standard Keyboard
25.	Keyboard Features	- Spill-resistant
26.	TouchPad	- Yes
27.	WebCam	- True Vision 720p HD
28.	Speaker	- Dual speakers
29.	Microphone	- Integrated dual array digital microphones
30.	Card Reader	- 1 x multi-format SD media card reader
31.	HDMI Port	- 1 x HDMI 1.4b
32.	USB 3 Port	- 2x SuperSpeed USB 3.2 Gen 1x1 Type-A 5Gbps signaling rate
33.	USB Type-C / Thunderbolt Port	- 1x SuperSpeed USB Type-C 5Gbps signaling rate
34.	Headphone & Microphone Port	- 1x headphone/microphone combo
35.	WiFi	- Realtek RTL8822CE 802.11a/b/g/n/ac (2x2) Wi-Fi

Sl.	Feature	Requirement of Procuring Entity
36.	Bluetooth	- Bluetooth 5
37.	Operating System	- Windows 11 Home
38.	Battery Type	- 3-cell Li-ion Battery
39.	Battery Capacity	- 41 Wh
40.	Adapter Type	- 45 W Smart AC power adapter
41.	Color	- Spruce blue
42.	Dimensions	- 35.85 x 24.2 x 1.79 cm
43.	Weight	- Starting at 1.7 kg
44.	Warranty	- 2 Years

19. ITEM NAME: 55 Inch 4K Ultra HD Smart TV

Quantity: 04 Nos

S l.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	STAND WIDTH	- Approx. 812 mm
4.	SCREEN SIZE (INCH, MEASURED DIAGONALLY)	- 55"(54.6")
5.	WEIGHT OF PACKAGE CARTON (GROSS)	- Approx. 24 kg
6.	WEIGHT OF TV WITHOUT STAND	- Approx. 15 kg
7.	VESA® HOLE PITCH(W X H)	- 200x200 mm
8.	DIMENSION OF TV WITHOUT STAND (W X H X D)	- Approx. 1241 x 721 x 79 mm

S l.	Feature	Requirement of Procuring Entity
9.	WEIGHT OF TV WITH STAND	- Approx. 15.9 kg
10.	DIMENSION OF PACKAGE CARTON (W X H X D)	- Approx. 1399 x 836 x 162 mm
11.	DIMENSION OF TV WITH STAND (W X H X D)	- Approx. 1241 x 781 x 340 mm
12.	SCREEN SIZE (CM, MEASURED DIAGONALLY)	- 139 cm
13.	HDCP	- HDCP2.3(for HDMI™1/2/3)
14.	USB DRIVE FORMAT SUPPORT	- FAT32/NTFS
15.	HDMI INPUTS TOTAL	- 3 (2Side,1Rear)
16.	COMPOSITE VIDEO INPUT(S)	- 1 (Bottom)
17.	HDMI AUDIO RETURN CHANNEL (ARC)	- Yes (ARC)
18.	RF (TERRESTRIAL/CABLE) CONNECTION INPUT(S)	- 1 (Side)
19.	HEADPHONE OUTPUT(S)	- 1 (Rear)
20.	USB PORTS	- 2 (Side)
21.	USB PLAYBACK CODECS	- MPEG1:MPEG1/MPEG2PS:MPEG2/.../FLAC/JPEG;WEBM:VP9/AC4/ogg/AAC
22.	WI-FI STANDARD	- Wi-Fi Certified 802.11a/b/g/n/ac
23.	CHROMECAST BUILT-IN	- Yes

S l.	Feature	Requirement of Procuring Entity
24.	BRAVIA SYNC (INCLUDING HDMI-CEC)	- Yes
25.	BLUETOOTH PROFILE SUPPORT	- Version 4.2;HID (mouse/keyboard connectivity)/.../SPP(Serial Port Profile)
26.	ETHERNET INPUTS	- 1 (Bottom)
27.	DISPLAY RESOLUTION (H X V, PIXELS)	- 3840x2160
28.	DISPLAY TYPE	- LCD
29.	BACKLIGHT TYPE	- Direct LED
30.	BACKLIGHT DIMMING TYPE	- Frame Dimming
31.	COLOUR ENHANCEMENT	- TRILUMINOS™ Display, Live Colour™ Technology
32.	CONTRAST ENHANCEMENT	- Dynamic Contrast Enhancer
33.	HDR (HIGH DYNAMIC RANGE) COMPATIBILITY	- Yes(HDR10, HLG)
34.	VIDEO SIGNAL SUPPORT	- HDMI™ signal :4096x2160p(24,50,60Hz), 3840x2160p(24,25,30,50,60Hz), ... 480i
35.	CLARITY ENHANCEMENT	- 4K X-Reality™ PRO
36.	PICTURE MODES	- Vivid, Standard, Cinema, Game, Graphic, Photo, Custom
37.	PICTURE PROCESSOR	- 4K Processor X1™
38.	MOTION ENHANCER (NATIVE HZ)	- Motionflow™ XR 200 (Native 50Hz)
39.	SPEAKER CONFIGURATION	- Full Range (Bass Reflex) x 2
40.	SPEAKER TYPE	- Bass Reflex Speaker

S l.	Feature	Requirement of Procuring Entity
41.	AUDIO POWER OUTPUT	- 10W + 10W
42.	DOLBY AUDIO FORMAT SUPPORT	- Dolby™ Audio
43.	DTS AUDIO FORMAT SUPPORT	- DTS HD
44.	OPERATING SYSTEM	- Android TV™
45.	ELECTRONIC PROGRAM GUIDE (EPG)	- Yes
46.	CLOSED CAPTIONS (ANALOG/DIGITAL)	- (Analogue)No, (Digital)Subtitle
47.	ON-BOARD STORAGE (GB)	- 16GB
48.	TELETEXT	- Yes
49.	DISPLAY LANGUAGE	- AFRIKAANS / ARABIC / BENGALI / ENGLISH / ... / SIMPLIFIED CHINESE / TRADITIONAL CHINESE / ZULU
50.	SCREEN SIZE (CM, MEASURED DIAGONALLY)	- 139 cm
51.	POWER CONSUMPTION (IN OPERATION)	- 118 W
52.	SCREEN SIZE (INCH, MEASURED DIAGONALLY)	- 55"(54.6")
53.	POWER CONSUMPTION (IN STANDBY)	- 0.5W
54.	MERCURY CONTENT(MG)	- 0.0 mg
55.	POWER REQUIREMENTS	- 50/60Hz, AC 110-240V

S l.	Feature	Requirement of Procuring Entity
	(VOLTAGE/FREQUENCY)	
56.	STAND COLOR	- Silver
57.	REMOTE CONTROL	- Standard Remote
58.	BEZEL COLOR	- Black
59.	BEZEL DESIGN	- Narrow Bezel
60.	STAND DESIGN	- Slim Blade Stand
61.	TV SYSTEM (ANALOG)	- B/G,D/K,I,M
62.	TV SYSTEM (DIGITAL TERRESTRIAL)	- DVB-T/T2
63.	TUNER CHANNEL COVERAGE (DIGITAL TERRESTRIAL)	- VHF/UHF(Depend on country/area selection)
64.	NUMBER OF TUNERS (TERRESTRIAL/CABLE)	- 1(Digital/Analog)
65.	TUNER CHANNEL COVERAGE (ANALOG)	- 45.25MHz-863.25MHz(Depend on country/area selection)
66.	Warranty	- 3 Years

20. ITEM NAME: 98" All In One 4K Ultra HD Flat Panel Interactive Display

Quantity: 02 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Display Format Native Resolution	- 3,840 x 2,160
4.	Aspect Ratio	- 16:9

Sl.	Feature	Requirement of Procuring Entity
5.	Picture Response Time	- 8ms
6.	Refresh Frequency	- 120Hz
7.	Pixel Pitch	- 0.5622 × 0.5622mm
8.	Panel Resolution	- 4K video resolution (3,840 x 2,160)
9.	Display Colors	- 1.07B(10bit)
10.	Brightness (typical)	- 350 cd/m ²
11.	Contrast Ratio	- 1200 : 1
12.	Viewing Angle	- Hor. 178°, Ver. 178°
13.	Life Time	- 30,000 Hours
14.	Touch System	- Touch Point
15.	Touch Tool	- Finger, Passive infrared pen
16.	Touch Response Time	- ≤12ms
17.	Interpolation Resolution	- 32768(W)×32768(D)
18.	System Requirement	- Windows10/Windows8/Windows7/Windows XP /Linux/Mac/Android/Chrome
19.	Others	- Minimum object size: 2mm Writing Height: 3.5mm Touch Drive: Free drive
20.	Operating System	- System Version
21.	CPU	- Dual core A73+Dual core A53
22.	GPU	- Quad core Mali G51
23.	RAM	- 4GB
24.	ROM	- 32GB
25.	Connectivity	- HDMI VGA PC Audio In Audio out LAN USB

Sl.	Feature	Requirement of Procuring Entity
		Touch Output RS232
26.	Others	- Built-in Wi-Fi
27.	Physical Specification	- Active Screen Size Dimensions Weight
28.	Power	- 600W Standby Power Power Requirements
29.	Others	- Mounting Screw Size: M8 x 25 mm VESA Form Factor: 800x400 mm
30.	Warranty	- 3 Years

21. ITEM NAME: 3 Pin 8 Port Grey Power Strip

Quantity: 20 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Type	- Power Strip
4.	Plug Type	- 3 Pin
5.	Port	- 8 Port
6.	USB Port	- No
7.	Cable Length	- 2 Meter
8.	Ampere	- 6 Amp
9.	Max. Spike Current (Amp)	- 19000 Ampere
10.	Safety Shutter	- Yes
11.	Surge Protector	- Yes
12.	Individual Switch	- No
13.	Color	- Gray

Sl.	Feature	Requirement of Procuring Entity
14.	Others	- Part no: F9E800ZB2M-GRY, 8 Port Surge Protector Power Strip
15.	Warranty Details	- 18 Month
16.	Made in/ Assemble	- China
17.	Country Of Origin	- USA
18.	Warranty	- 18 Month

22. ITEM NAME: 8" 220W PORTABLE PA SYSTEM

Quantity: 02 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Power Output	- Class D Max 220w+Max 220w Double Power Output
4.	T.H.D.	- <0.5%
5.	Echo	- Echo effect control
6.	Reverb	- Reverb effect control
7.	Bluetooth	- BT 5.0
8.	VOP	- Voice Priority switch
9.	ALARM	- 3 Kinds of Alarm sound
10.	Frequency Response	- 60Hz~20KHz+3dB
11.	Speaker	- 8" full range speaker + 1" Tweeter Horn
12.	Power Supply	- 100v-240v
13.	Battery	- 21.6V / 4.9Ah (Lithium battery)
14.	Battery Power Indicator	- 4-LED Indicator for the Battery Power
15.	Charging Time	- 5 hours charging
16.	Standby Time	- 10 hours

Sl.	Feature	Requirement of Procuring Entity
17.	Receiver Module	- PLL Synthesized, TR-332 UHF 32CH or TR-310 DIGITAL UHF 100CH
18.	Wireless Mic	- Handheld, Lavalier, Headset
19.	Wired Mic	- All wired Microphone
20.	Player	- TR-MP3 USB/SD/REC Player or CD/USB/SD Player (option)
21.	Audio Input	- XLR & 1/4 (6.3mm) Combo Input and RCA Input
22.	Audio Output	- 1/4 (6.3mm) Double Power Output and RCA Output
23.	Dimensions	- 340 × 330 × 545 mm
24.	Weight	- 11Kg
25.	Exterior Color	- Black
26.	Warranty	- 1 Year

For Lot-2: Supply, Installation and Commissioning of Robotic Equipment for C4IR at BCC

1. ITEM NAME: ROS research rover robot for mapping, navigation, and manipulation

Quantity: 05 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Payload (create 3)	- 2kg
4.	Operating time	- 90 Mins
5.	Width	- 35cm
6.	Length	- 35cm
7.	Degrees of freedom	- 6
8.	Reach	- 680mm
9.	Span	- 1360mm
10.	Repeatability	- 1mm
11.	Workng payload	- 250g
12.	Weight	- 9.5lbs
13.	Create3 Plattform	<ul style="list-style-type: none"> - Sizes: 14.29 cm x 40.64 cm x 47.31 cm - Weight: 4.68 kg - Interfaces: Wi-Fi or Ethernet over USB Host: Connect and control the robot using ROS 2. - Bluetooth® Low Energy: Connect to and control the robot using iRobot Education's Python Web Playground. - Battery: 1800 mAh Li-Ion rechargeable battery - 1x Power button - 2x User buttons - 2x Front bumper zones - 2x Wheel encoders - 4x IR cliff sensors - 7x IR obstacle sensors - 1x Downward optical flow sensor for odometry - 1x 3D gyroscope 1x 3D accelerometer - 1x Battery level monitor Aktuatoren: - 2x Drive motors 6x RGB LED ring - 1x Speaker

Sl.	Feature	Requirement of Procuring Entity
14.	Processing unit : NUC Mini PC	<ul style="list-style-type: none"> - 8th Gen Intel Dual-Core i3, 8GB DDR4 Ram, 240GB Solid State Drive (SSD), Intel Iris Plus Graphics 655, Wifi, Bluetooth 5.0, Gigabit Ethernet, 4k Support, Card Reader, Dual monitor Capable, HDMI, USB, Thunderbolt 3
15.	Depth Camera	<ul style="list-style-type: none"> - Image Sensor Technology Global Shutter - Ideal Range .3 m to 3 m - Depth Technology Stereoscopic - Minimum Depth Distance (Min-Z) at Max Resolution ~28 cm - Depth Accuracy <2% at 2 m - Depth Field of View (FOV) $87^{\circ} \times 58^{\circ} (\pm 3^{\circ})$ - Depth Stream Output Resolution Up to 1280×720 - Depth Stream Output Frame Rate Up to 90 fps - RGB Frame Resolution 1920×1080 - RGB Frame Rate 30 fps - RGB Sensor Technology Rolling Shutter - RGB Sensor FOV $69^{\circ} \times 42^{\circ}$ - RGB Sensor Resolution 2 MP - Camera Module Intel RealSense Module D430 + RGB Camera - Vision Processor Board Intel RealSense Vision Processor D4 - Form factor Camera Peripheral - Camera Dimension - (Length \times Depth \times Height) $90 \text{ mm} \times 25 \text{ mm} \times 25 \text{ mm}$ - Connectors USB-C* 3.1 Gen 1* - Mounting Mechanism – One 1/4-20 UNC thread mounting point - – Two M3 thread mounting points
16.	Robot Arm	<ul style="list-style-type: none"> - Degrees of Freedom: 5 - Reach: 650mm - Span: 1300mm - Repeatability: 1mm - Accuracy: 5mm - 8mm - Working Payload: 250g - - T servos $\times 6$: MCU ARM CORTEX-M3 (72 [MHz], 32Bit)

Sl.	Feature	Requirement of Procuring Entity
		<p>POSITION SENSOR Contactless absolute encoder (12Bit, 360 ('1)</p> <p>MOTOR Coreless</p> <p>BAUD RATE 9,600 [bps] ~ 4.5 [Mbps]</p> <p>CONTROL ALGORITHM PID control</p> <p>RESOLUTION 4096 [pulse/rev]</p> <p>BACKLASH 15 [arcmin] (0.25 [°])</p> <p>GEAR RATIO 353.5: 1</p> <p>STALL TORQUE 4.1 [N.m] (at 12.0 M, 2.3 [A])</p> <p>NO LOAD SPEED 46 [rev/min] (at 12.0 M)</p> <p>- T servos ×2:</p> <p>MCU ARM CORTEX-M3 (72 [MHz], 32Bit)</p> <p>POSITION SENSOR Contactless absolute encoder (12Bit, 360 [°])</p> <p>MOTOR Cored</p> <p>BAUD RATE 9,600 [bps] ~ 4.5 [Mbps]</p> <p>CONTROL ALGORITHM PID control</p> <p>RESOLUTION 4096 [pulse/rev]</p> <p>WEIGHT 57.2 [g]</p> <p>GEAR RATIO 258.5: 1</p> <p>STALL TORQUE 1.5 [N.m] (at 12.0 M, 1.4 [A])</p> <p>NO LOAD SPEED 61 [rev/min] (at 12.0 V)</p>
17.	Warranty	- 2 Years

2. ITEM NAME: Robot Arm for education and research with support for ROS

Quantity: 05 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Country of Manufacturer	To be mentioned by the bidder
4.	Degrees of Freedom	- 5
5.	Reach	- 650mm
6.	Span	- 1300mm
7.	Repeatability	- 1mm
8.	Accuracy	- 5mm - 8mm
9.	Working Payload	- 450g
10.	T servos ×6:	MCU ARM CORTEX-M3 (72 [MHz], 32Bit) POSITION SENSOR Contactless absolute encoder (12Bit, 360 ('1) MOTOR Coreless BAUD RATE 9,600 [bps] ~ 4.5 [Mbps] CONTROL ALGORITHM PID control RESOLUTION 4096 [pulse/rev] BACKLASH 15 [arcmin] (0.25 [°]) GEAR RATIO 353.5: 1 STALL TORQUE 4.1 [N.m] (at 12.0 M, 2.3 [A]) NO LOAD SPEED 46 [rev/min] (at 12.0 M)
11.	T servos ×2:	MCU ARM CORTEX-M3 (72 [MHz], 32Bit) POSITION SENSOR Contactless absolute encoder (12Bit, 360 [°]) MOTOR Cored

Sl.	Feature	Requirement of Procuring Entity
		BAUD RATE 9,600 [bps] ~ 4.5 [Mbps] CONTROL ALGORITHM PID control RESOLUTION 4096 [pulse/rev] WEIGHT 57.2 [g] GEAR RATIO 258.5: 1 STALL TORQUE 1.5 [N.m] (at 12.0 M, 1.4 [A]) NO LOAD SPEED 61 [rev/min] (at 12.0 V)
12.	Warranty	- 2 Years

3. ITEM NAME: Quadruped robot with 3D LiDAR, five stereo depth cameras, and side-follow system for dog-like companionship + 2 set extra battery pack

Quantity: 02 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Dimension (Stand)	- 645 × 280 × 400mm
4.	Dimension (Fold)	- 540 × 290 × 130mm
5.	Weight	- 12Kg±1.5Kg
6.	Payload	- ≈5Kg (Max~10Kg)
7.	Speed	- 0~3.7m/s (Max~5m/s)
8.	Slope	- 35°
9.	Endurance	- 1-2.5h
10.	Power	- 24 (BAT)
11.	Battery	- 6000mAh - 2 set extra battery pack
12.	Adapter	- 24V, 6A
13.	Super Sensory System	- 5 Set

Sl.	Feature	Requirement of Procuring Entity
14.	Ultrasonic Sensor	- 3 Set
15.	Processor	- 2 Nano + (1 Nano or 1 NX)
16.	Arm Controller	- CPU Model Bcm2711
17.	Memory / Flash Memory	- DDR4L 2gb / 32gb microSD
18.	Built-In Controllers	- 3 nVIDIA Nano
19.	Impact absorber	- Omnidirectional Flexible Buffer Structure Won't be Injured when dropped from a height of 1.5m.
20.	Body/Thigh Joint (C1-8)	- 520g 23.70N.m
21.	Knee Joint	- C1-8 × 1.5 ratio
22.		- 35.55N.m
23.	Lidar	- Optional 3D
24.	External Interface	- HDMI * 3 - Gigabit network port * 1 - USB * 3 - Integrated interface * 1
25.	Features	- Graphic Processing API (OTA) - Research Programming API - Python Programming API - HAI 1 Human Recognition - APP Top View - 4G or 5G - Foot Force Sensor - Multifunction Extension Interface
26.	Warranty	- 2 Years

4. ITEM NAME: ROS Robot Car with Vision Robotic Arm Powered by Jetson Nano
Support SLAM Mapping/ Navigation/ Python

Quantity: 10 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder

Sl.	Feature	Requirement of Procuring Entity
3.	Size	- 324*260*605mm
4.	Weight	- 3500g
5.	Material	- Full-metal hard aluminum alloy bracket (anodized)
6.	Camera resolution	- 480P
7.	DOF	- 8DOF
8.	Battery	- 11.1V 6000mAh Lipo battery
9.	Continuous working life	- 60min
10.	Hardware	- ROS controller and ROS expansion board
11.	Operating system	- Ubuntu 18.04 LTS + ROS Melodic
12.	Software	- PC remote control software + iOS/ Android APP
13.	Communication	- USB/ WiFi / Ethernet
14.	Programming language	- Python/ C/ C++/ JavaScript
15.	Storage	- 32GB TF card
16.	Servo	- HTS-20H serial bus servo
17.	Control method	- Phone/ Handle control
18.	Package size (advanced kit)	- 335* 356*220mm
19.	Package weight (advanced kit)	- About 3600g
20.	Warranty	- 2 Years

5. ITEM NAME: ROS Education AI Vision Humanoid Robot Powered by Raspberry Pi 4B Biped Inverse Kinematics Algorithm Learning Teaching Kit

Quantity: 10 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Size	- 193 * 135 * 415mm
4.	DOF	- 24

Sl.	Feature	Requirement of Procuring Entity
5.	Speed	- 7cm/s
6.	App	- WonderROS, Android/ iOS
7.	Joint feedback	- voltage, position and temperature
8.	Camera	- 120° wide-angle, 1 megapixel, manual focus
9.	Intelligent servo	- HX-35H serial bus servo *14; HX-35HM magnetic encoder serial bus servo *2; HX-12H serial bus servo *8
10.	IMU module	- 3-axis gyroscope, 3-axis accelerator and 3-axis compass
11.	Controller	- Raspberry Pi 4B
12.	CPU	- Broadcom BCM2711 Quad core Cortex-A72
13.	Storage	- 32GB SD card
14.	Operating system	- ROS
15.	Weight	- About 2KG
16.	Power supply	- 11.1V 3500mAh 5C LiPo battery
17.	PC software	- AiNex visual action editor
18.	Warranty	- 2 Years

6. ITEM NAME: ROS Hexapod Robot Kit Powered by Jetson Nano with Lidar Depth Camera Support SLAM Mapping and Navigation

Quantity: 10 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Product weight	- 2.5kg
4.	Material	- Full-metal hard aluminum alloy bracket (anodized)
5.	Battery	- 11.1V 3500mAh 5C Lipo battery
6.	Continuous working life	- 60min
7.	Hardware	- ROS controller and ROS expansion board
8.	Operating system	- Ubuntu 18.04 LTS + ROS Melodic

Sl.	Feature	Requirement of Procuring Entity
9.	Software	- PC software + iOS/ Android app
10.	Communication	- USB/ WiFi / Ethernet
11.	Programming language	- Python/ C/ C++/ JavaScript
12.	Storage	- 32GB TF card
13.	Servo	- HX-35H intelligent serial bus servo
14.	Control method	- Computer/ phone/ handle control
15.	Package size (advanced kit)	- 387* 356* 210mm (length*width*height)
16.	Package weight (advanced kit)	- About 3.6kg
17.	Product weight	- 2.5kg
18.	Warranty	- 2 Years

7. ITEM NAME: JETSON NANO Robot Arm ROS Open source Vision Recognition Program Robot

Quantity: 10 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Robot arm size (suction nozzle version)	- 475 * 159 *251mm
4.	Robot arm weight (suction nozzle version):	- 1.6kg
5.	Material	- Metal and carbon fiber
6.	End effector	- Electric suction nozzle, electromagnet suction cup, small gripper, pen
7.	DOF	- 4+1
8.	Power supply	- 12V 5A DC power adapter
9.	Hardware	- Jetson Nano board and expansion board

Sl.	Feature	Requirement of Procuring Entity
10.	Software	- PC software + iOS/ Android app
11.	Payload	- 450g
12.	Servo type	- HTS-35H serial bus servo/ LFD-01M anti-blocking servo
13.	Control method	- Computer/ phone/ wireless handle/ mouse control
14.	Programming language	- Python/ C/ C++/ JavaScript
15.	Communication	- USB/ Wi-Fi/ Ethernet
16.	Storage	- 32GB TF card
17.	Package size(standard kit):	- 390 * 295 * 190mm
18.	Package weight(standard kit):	- About 3.5kg
19.	Warranty	- 2 Years

8. ITEM NAME: Quadruped Robot with AI Vision Powered by Raspberry Pi ROS Open-Source Robot Dog

Quantity: 10 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Size	- 226*149*190mm
4.	Weight	- 720g
5.	Material	- Aluminium alloy
6.	Resolution	- 480P
7.	Robot arm (DOF)	- 8DOF
8.	Power	- 7.4V 2200mAh Lipo battery
9.	Hardware	- RaspberryPi CM4 & RaspberryPi expansion board
10.	Software	- PC software, iOS/ Android APP
11.	Servo	- HPS-0618SG coreless servo

Sl.	Feature	Requirement of Procuring Entity
12	Control method	- PC, phone and handle control
13	Package size(standard kit)	- 315*315*165mm
14	Package weight(standard kit)	- About 1500g
15	Warranty	- 2 Years

9. ITEM NAME: Collaborative Robot Arm - Industrial Robot

Quantity: 02 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Country of Manufacturer	To be mentioned by the bidder
4.	Solution Type	Industrial Robot
5.	Quantity	- 2 Units
6.	WEIGHT	- 16.5kg
7.	MAXIMUM PAYLOAD	- 3kg
8.	MAX REACH	- 795mm
9.	RATED VOLTAGE	- DC48V
10.	MAXIMUM SPEED OF TCP	- 2m/s
11.	REPEATABILITY	- ± 0.02 mm
12.	COMMUNICATION	- TCP/IP, Modbus, EtherCAT, Wifi
13.	IP RATING	- IP54°
14.	TEMPERATURE	- 0~45
15.	POWER	- 350W
16.	Warranty	- 1 Year

10. ITEM NAME: RG2-FT Finger Gripper

Quantity: 01 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Industrial Robot Equipment
4.	Quantity	- 1 Unit
5.	Maximum Payload (Force)	- 2kg / 4.4lb
6.	Maximum Payload (Form)	- 4kg / 8.8lb
7.	Total stroke (adjustable)	- 100mm / 3.93 inch
8.	Gripping force (adjustable)	- 40N
9.	Gripping speed	- 184mm/s
10.	Gripping time	- 0.11s
11.	Warranty	- 1 Year

11.ITEM NAME: RG2 Finger Gripper

Quantity: 01 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Industrial Robot Equipment
4.	Quantity	- 1 Unit
5.	Maximum Payload (Force)	- 2kg / 4.4lb
6.	Maximum Payload (Form)	- 5kg / 11lb
7.	Total stroke (adjustable)	- 110mm / 4.33 inch
8.	Gripping force (adjustable)	- 40N
9.	Gripping speed	- 127mm/s
10.	Gripping time	- 0.21s
11.	Warranty	- 1 Year

12.ITEM NAME: 2FG7 Finger Gripper

Quantity: 01 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Industrial Robot Equipment
4.	Quantity	- 1 Unit
5.	Maximum Payload (Force)	- 7kg / 15.5lb
6.	Maximum Payload (Form)	- 11kg / 24.3lb
7.	Total stroke	- 39mm / 1.53 inch
8.	Gripping force	- 140N
9.	Gripping speed	- 450mm/s

Sl.	Feature	Requirement of Procuring Entity
10.	Gripping time	- 200ms
11.	Warranty	- 1 Year

13.ITEM NAME: 2FGP20 Palletizer Gripper

Quantity: 01 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Industrial Robot Equipment
4.	Quantity	- 1 Unit
5.	Maximum Payload	- 20kg / 44.1lb
6.	Total stroke	- 260mm / 10.24 inch
7.	Gripping force	- 400N
8.	Gripping speed	- 180mm/s
9.	Gripping time (including brake activation)	- 600mm/s
10.	Vacuum	- 60% Vacuum / - 0.607 Bar / 7.95in Hg
11.	Warranty	- 1 Year

14.ITEM NAME: 3FG15 Finger Gripper

Quantity: 01 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Industrial Robot Equipment
4.	Quantity	- 1 Unit
5.	Payload (Grip) / (Flex Grip)	- (10kg / 22lb) / (8kg / 17lb)
6.	Payload Form Fit	- 15kg / 33lb
7.	Grip Diameter (External)	- 152mm / 5.98 inch

Sl.	Feature	Requirement of Procuring Entity
8.	Grip Diameter (Internal)	- 176mm / 6.93 inch
9.	Gripping speed	- 125mm/s
10.	Gripping time	- 500ms
11.	Warranty	- 1 Year

15.ITEM NAME: VG10 Vacuum Gripper

Quantity: 01 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Industrial Robot Equipment
4.	Quantity	- 1 Unit
5.	Vacuum	- 80% Vacuum / -0.810 Bar / 24 inHg
6.	Payload (Rated) / (Maximum)	- (10kg / 22lb) / (15kg / 33lb)
7.	Gripping time	- 0.35s
8.	Releasing time	- 0.20s
9.	Vacuum cups	- 16pc.
10.	Air flow	- 12L/min
11.	Warranty	- 1 Year

16.ITEM NAME: VGC10 Vacuum Gripper

Quantity: 01 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Industrial Robot Equipment
4.	Quantity	- 1 Unit
5.	Vacuum	- 80% Vacuum / -0.810 Bar / 24 inHg

Sl.	Feature	Requirement of Procuring Entity
6.	Payload (Default) / (Custom)	- (6kg / 13.2lb) / (15kg / 33.1lb)
7.	Gripping time	- 0.35s
8.	Releasing time	- 0.20s
9.	Vacuum cups	- 7pc.
10.	Air flow	- 12L/min
11.	Warranty	- 1 Year

17.ITEM NAME: Soft Gripper

Quantity: 01 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Industrial Robot Equipment
4.	Quantity	- 1 Unit
5.	Total spindle stroke	- 40mm / 1.57 inch
6.	Spindle position resolution	- 0.1mm / 0.0039 inch
7.	Spindle force	- 380N
8.	Spindle speed	- 37mm/s / 1.46 inch/s
9.	Gripping time (SG-a-H)	- 32 grip/min
10.	Food approval	- FDA 21 CFR 177.2600* & EC 1935/2004
11.	Warranty	- 1 Year

18.ITEM NAME: Robot Eyes/ FLEXIBLE, ADAPTABLE 2.5D VISION SYSTEM

Quantity: 03 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Industrial Robot Equipment

Sl.	Feature	Requirement of Procuring Entity
4.	Quantity	- 1 Unit
5.	Working Distance:	- 400-1000 mm (15.8-39.3 in)
6.	Detection Repeatability:	- <2 mm (<0.08 in)
7.	Minimum part size:	- 10x10 mm (0.4x0.4 in) or 15 mm (0.6 in) diameter
8.	Depth Technology: Active IR Stereo	- Active IR Stereo
9.	IP Rating: IP54	- IP54
10.	Warranty	- 1 Year

19.ITEM NAME: Sander

Quantity: 01 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Industrial Robot Equipment
4.	Pad diameter	- 127mm / 5 in.
5.	Pad height	- 9.5mm / 0.37 in.
6.	Orbit size	- 5mm / 3/16 in.
7.	Rotation speed	- 10,000 RPM
8.	Pad type (3M: 20353)	- Clean Sanding Disc Pad
9.	Pad media type ⁽¹⁾	- Hookit™
10.	Warranty	- 1 Year

20.ITEM NAME: 3-qubit desktop NMR quantum computer

Quantity: 01 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder

Sl.	Feature	Requirement of Procuring Entity
3.	Solution Type	Computer Equipment
4.	Quantity	- 1 Unit
5.	Number of qubits	- 3
6.	Coherence time	- 200 ms
7.	Number of single-bit quantum gate operations	- 40 Gates
8.	Number of multi-bit quantum gate operations	- 8 Gates
9.	Height	- 330mm
10.	Width	- 610mm
11.	Length	- 560mm
12.	Weight	- 100 ~ 240V AC ; 50Hz/60Hz ; Single Phase
13.	Mains Power Rating	- 44 Kg
14.	Power Dissipation	- 330W
15.	Warranty	- 1 Year

21.ITEM NAME: 2-qubit desktop NMR quantum computer

Quantity: 01 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Computer Equipment
4.	Quantity	- 1 Unit
5.	Number of qubits	- 2
6.	Coherence time	- ≥ 200 ms
7.	Number of single-bit quantum gate operations	- ≥ 30 Gates
8.	Number of multi-bit quantum gate operations	- ≥ 10 Gates
9.	Height	- 200mm

Sl.	Feature	Requirement of Procuring Entity
10.	Width	- 350mm
11.	Length	- 263mm
12.	Weight ¹⁴	- Kg
13.	Mains Power Rating	- 100 ~ 240V AC; 50Hz/60Hz ; Single Phase
14.	Power Dissipation	- ~60W
15.	Warranty	- 1 Year

22.ITEM NAME: 58-inch 4K vertical digital touch screen kiosk

Quantity: 15 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Computer Equipment
4.	Quantity	- 2 Units
5.	Application:	- Indoor, Outdoor
6.	Color:	- 16.7M / Black
7.	Media Available:	- datasheet, Photo, EDA/CAD Models, Other
8.	use:	- advertising publish, retail store, shopping mall, display...
9.	Specification:	- Stretch bar, Digital Poster, Touch Screen, Video Wall,
10.	Display Ratio:	- 16:9
11.	Contrast Ratio:	- 1200:1
12.	IP Rating:	- IP65
13.	HS Code:	- 8528591 090
14.	View Angle (HN) :	- 1 78/178
15.	Panel:	- LCD
16.	Frame color:	- White, Black, Silver
17.	Standby Power loss:	- <3W

Sl.	Feature	Requirement of Procuring Entity
18.	Storage Temperature:	- -20--60°C
19.	Type	- LCD
20.	Supplier Type:	- Original manufacturer, ODM, OEM
21.	Place of Origin:	- Guangdong, China
22.	Brand Name:	- OEM/KAWDEN/NEUTRAL
23.	Function:	- SDK
24.	Brightness:	- 600cd/m2
25.	Response Time:	- 5ms
26.	Lifespan (hours):	- 80000
27.	Installation Type:	- floor-standing
28.	Resolution:	- 3840*2160
29.	Touch screen:	- Infrared Touch, Capacitive Touch
30.	Display area:	- 936.20H*529.20me
31.	Overall, Power loss:	- 5250W
32.	Operating	- 0--50°C
33.	temperature:	- VESA DPMS
34.	Power standard:	- LCD Digital Signage
35.	Product name:	- LCD
36.	Warranty	- 1 Year

23.ITEM NAME: Ultra Sharp 27 4K USB-C Hub Monitor

Quantity: 10 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Computer Monitor
4.	Quantity	- 2 Units

Sl.	Feature	Requirement of Procuring Entity
5.	Display Type	- LED-backlit LCD monitor / TFT active matrix
6.	USB Power Delivery	- 90 Watt
7.	Native Resolution	- 4K 3840 x 2160 at 60 Hz
8.	Brightness	- 400 cd/m2
9.	Color Gamut	- 100% Rec 709, 100% sRGB, 98% DCI-P3
10.	Vertical Viewing Angle	- 178
11.	Features	- Arsenic free
12.	Diagonal Size	- 27"
13.	Panel Type	- IPS Black Technology
14.	Pixel Pitch	- 0.1554 mm
15.	Contrast Ratio	- 2000:1 / 2000:1 (dynamic)
16.	Response Time	- 5 ms (gray-to-gray fast), 8 ms (gray-to—gray normal)
17.	Screen Coating	- Anti-glare, 3H Hard Coating
18.	Dimensions (WxDxH)	- 24.1 in x 7.3 in x 15.2 in - with stand
19.	Built-in Devices	- USB 3.2 Gen 2/USB—C hub
20.	Aspect Ratio	- 16:9
21.	Pixel Per Inch	- 163.18
22.	Color Support	- 1.07 billion colors
23.	Horizontal Viewing Angle	- 178
24.	Backlight Technology	- LED backlight
25.	Weight	- 14.64 lbs
26.	Warranty	- 1 Year

24.ITEM NAME: Social humanoid robot

Quantity: 02 Set

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Height	- 120 cm 47.2 in
4.	Length	- 42.5 cm 16.7 in
5.	Width	- 48.5 cm 19 in
6.	Weight	- 28 kg 62 lb
7.	Speed	- 3 km/h 1.7 mph
8.	Sensors	- Head with two HD 5-megapixel cameras (mouth and forehead), 3D sensor (behind eyes), four microphones, and three touch sensors. Torso with gyroscope. Hands with two touch sensors. Leg/mobile base with two sonars, six lasers, three bumper sensors, and a gyroscope.
9.	Actuators	- 20 DC motors
10.	Power	- 30-Ah lithium-ion battery, 12 hours of operation
11.	Computing	- Intel Atom E3845 computer
12.	Speakers	- Two speakers
13.	Tablet	- 10.1-inch tablet on the robot's chest
14.	Connection	- Bluetooth, Ethernet, Wi-Fi
15.	Software	- NAOqi operating system - Choregraphe software development kit (SDK) and Pepper SDK for Android Studio - Support for Python, C++, Java, and JavaScript - ROS interface
16.	Degrees of freedom (DOF)	- 19 (Head: 2 DoF; Shoulder: 2 DoF x 2; Elbow: 2 DoF x 2; Wrist: 1 DoF x 2; Hand: 1 DoF x 2; Hip: 2 DoF; Knee: 1 DoF; Mobile base: 2 DoF)
17.	Warranty	- 1 Year

For Lot- 3: Supply, Installation and Commissioning of IoT, Drone and Advance Equipment for C4IR at BCC

1. ITEM NAME: T30 Agricultural Drone

Quantity: 02 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Drone equipment
4.	Quantity	- 2 Units
5.	Drone parameters	<ul style="list-style-type: none"> - Total weight (without batteries):26.4 kg - Maximum take-off weight:78 kg (near sea level) - Maximum thrust-to-weight ratio:1.70 @ takeoff weight of 66.5 kg - Hovering precision (with good GNSS signal): With D-RTK enabled: ± 10 cm (horizontal) and ± 10 cm (vertical) With D-RTK disabled:± 0.6m (horizontal) and ± 0.3m (vertical) (with the radar function enabled: ± 0.1m) - RTK and GNSS frequency bands: RTK: GPS L1/L2, GLONASS F1/F2, BeiDou B1/B2, and Galileo E1/E5 GNSS: GPS L1, GLONASS F1, and Galileo E1 - Maximum power consumption: 11,000 W - Hovering power consumption: 10,000 W (@ takeoff weight of 66.5 kg) - Hovering endurance:20.5min (@29,000 mAh & takeoff weight of 36.5 kg)7.8min (@29,000 mAh & takeoff weight of 66.5 kg) - Maximum pitch angle:15° - Maximum operating flight speed: 7 m/s - Maximum level speed: 10 m/s (with good GNSS signal) - Maximum tolerable wind speed: 8 m/s - Maximum flight altitude: 4,500m *Reduce the pesticide load by 12% for each increase of 1,000 meters in altitude. - Recommended operating ambient humidity: < 93% - Recommended operating ambient temperature: 0°C to 45°C
6.	Chassis parameters	- Maximum rotor distance: 2,145 mm

Sl.	Feature	Requirement of Procuring Entity
		<ul style="list-style-type: none"> - Dimensions: 2,858 mm × 2,685 mm × 790 mm (with arms and blades unfolded) 2,030 mm × 1,866 mm × 790 mm (with arms unfolded and blades folded) 1,170 mm × 670 mm × 857 mm (with arms folded)
7.	Power system - Motor	<ul style="list-style-type: none"> - Stator size: 100×18 mm - KV value: 77 rpm/V - Maximum pull: 18.7 kg/rotor - Maximum power: 3,600 W/rotor - Weight: 756 g
8.	Power system - Propellers	<ul style="list-style-type: none"> - Diameter × pitch: 38×20 inch - Weight (with a single blade): 106 g
9.	Power system - ESC	<ul style="list-style-type: none"> - Maximum operating current (continuous): 60 A - Maximum operating voltage: 60.9 V (14S LiPo)
10.	FPV cameras	<ul style="list-style-type: none"> - View angle (FOV): Horizontal: 129°, vertical: 82° - Resolution: 1,280×720 15-30 fps
11.	FPV searchlights	<ul style="list-style-type: none"> - Maximum light intensity: 13.2 lux @ 5-meter direct light
12.	Spraying system - Operation tank	<ul style="list-style-type: none"> - Operation tank volume: 30L at full load - Operating load: 30 kg at full load
13.	Spraying system - Nozzles	<ul style="list-style-type: none"> - Nozzle model: SX11001VS (standard), SX110015VS (optional), Fruit tree drones: TX-VK04 (optional) - Nozzle quantity: 16 - Maximum spray flow: SX11001VS: 7.2L/min, SX110015VS: 8L/min, TX-VK4: 3.6 L/min - Atomized particle size: SX11001VS : 130 - 250 μm, SX110015VS : 170 - 265 μm, TX-VK4: 110 - 135 μm (depending on the actual operating environment, spray flow, and other factors) - Maximum effective spray width: 4-9 m (with 12 nozzles and a distance of 1.5 to 3 meters to crops)
14.	Battery	<ul style="list-style-type: none"> - Model: BAX501-29,000mAh-51.8V - Weight: Approximately 10.1 kg - Discharge rate: 11.5C - Water-resistance rating: IP54 with board-level potting protection - Capacity: 29,000 mAh

Sl.	Feature	Requirement of Procuring Entity
		- Voltage: 51.8 V

2. ITEM NAME: Coaxial Octocopter Delivery Combo

Quantity: 02 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Drone equipment
4.	Quantity	2 Units
5.	Diagonal Wheelbase:	- 815mm
6.	Unfolded Dimensions:	- 960mm*960mm*450mm
7.	Folded Dimensions:	- 400mm*200mm*900mm
8.	Empty Weight:	- 4kg (without batteries), 10kg (with batteries)
9.	Suggested Max Payload:	- 5kg
10.	Max Take-off Weight:	- 15kg
11.	Operating Frequency:	- 2.4-2.484Ghz
12.	RF Power:	- 20DB@CE/23DBFCC
13.	Flight Time:	- 80min (no payload)40min (5kg payload including box)
14.	GNSS:	- GPS+GLONASS+Beidou
15.	Hovering Accuracy Range:	- Vertical: ± 0.1 m ± 0.5 m (GPS enabled) ± 0.1 m (RTK enabled) Horizontal: ± 0.3 m ± 1.5 m (GPS enabled) ± 0.1 m (RTK enabled)
16.	RTK Positioning Accuracy:	- When RTK enabled and fixed - 2cm(Vertical), 2cm(Horizontal)
17.	Max Angular Velocity: Pitch:	- 300°/s, Yaw: 100°/s
18.	Max Pitch Angle:	- 45°(S Mode)

Sl.	Feature	Requirement of Procuring Entity
19.	Max Ascent Speed:	- 5m/s
20.	Max Descent Speed:	- 3m/s
21.	Max Level Speed:	- 18M/S(GPS Mode), 35M/S(S Mode)
22.	Max Service Ceiling:	- 7000m(1kg payload, 11.5kg takeoff weight)
23.	Max Wind Resistance:	- 16M/S
24.	Ingress Protection Rating:	- IP65
25.	Battery:	- 7S 28000mah Li-ion battery
26.	Operating Temperature:	- -25°C to 60°C

3. ITEM NAME: Pro Triple-Camera Drone

Quantity: 01 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Drone equipment
4.	Quantity	1 Unit
5.	Color	- Black
6.	Video Capture Resolution	- 4K UHD 2160p
7.	Effective Still Resolution	- 12 MP
8.	Connectivity Technology	- Wi-Fi
9.	Included Components	- Shoulder Bag x1, Spare Mavic 3 Low-Noise Propellers (pair) x4, Mavic 3 Intelligent Flight Battery x3, RC Pro Control Sticks (Pair) x1, 100W USB-C Power Adapter x1, 10Gbps Lightspeed Data Cable x1, Mavic 3 Pro Cine x1, 100W USB-C Power Adapter AC Power Cable x1, Mavic 3 Battery Charging Hub (100W) x1, RC Pro x1, Mavic 3 Pro Storage Cover x1, USB-C to USB-C Cable x2, Mavic 3 Pro ND Filters Set (ND8/16/32/64) x1
10.	Item Weight	- 3.91 Kilograms

Sl.	Feature	Requirement of Procuring Entity
11.	Video Capture Format	- 4k
12.	Control Type	- Remote Control
13.	Media Type	- SD
14.	Wireless Communication Technology	- Wi-Fi
15.	Battery Cell Composition	- Lithium Ion
16.	Are Batteries Included	- Yes
17.	Remote Control Included?	- Yes
18.	Optical Sensor Technology	- CMOS
19.	Rechargeable Battery Included	- Yes
20.	Product Dimensions	- 13.68"L x 11.44"W x 4.24"H
21.	Item Weight	- 8.61 pounds
22.	ASIN	- B0BV23H4R1
23.	Item model number	- CP.MA.00000664.01
24.	Batteries	- 1 Lithium Polymer batteries required. (included)

4. ITEM NAME: FDM 3d printer ,1000*1000*1000 large size 3d printer

Quantity: 01 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	3D Printer equipment
4.	Quantity	1 Unit
5.	Item number :	- FY3D-R1000
6.	Forming principle :	- FDM
7.	Build size :	- 1000*1000*1000MM
8.	Language :	- English
9.	Support material :	- PLA ,water -soluble filament

Sl.	Feature	Requirement of Procuring Entity
10.	Forming accuracy:	- 0.1mm
11.	Layer thickness:	- 0.05-0.4mm
12.	Print speed :	- max ,24ML/H
13.	Connection mode:	- USB,TF CARD
14.	Operate system:	- winxp/vista/8/10
15.	Power supply:	- 110-220v ,50-60hz
16.	Machine size :	- 1410*1520*1550mm

5. ITEM NAME: Kobra Max 3D Printer

Quantity: 05 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	3D Printer equipment
4.	Quantity	- 5 Units
5.	Leveling:	- Automatic, 25 points leveling
6.	Panel area:	- 7.95 in ² / 51.3 cm ²
7.	Filament run-out detection:	- support
8.	Printing material:	- PLA / ABS / PETG & TPU
9.	Nozzle size:	- ø 0.4 mm (replaceable)
10.	Nozzle temperature:	- ≤ 500 °F / 260 °C
11.	Hot bed temperature:	- ≤ 194 °F / 90 °C
12.	Average speed:	- ≤ 180mm/s (suggested 80mm/s)
13.	Control panel:	- 4.3 inch LCD touch screen
14.	Z-axis:	- double threaded rod
15.	Print size:	- 17.7 x 15.7 x 15.7 in. / 450 x 400 x 400 mm (HWD)
16.	Printing volume:	- 19.02 gal. / 72.0 L

Sl.	Feature	Requirement of Procuring Entity
17.	Machine dimensions:	- 720 x 715 x 665mm
18.	3D Printer Filament	- 300 coil - PLA+,100% Virgin Material - 34 color - 1.75mm/2.85mm/3.0mm - 1 Kg/spool - 330M length

6. ITEM NAME: Photon M3 Max

Quantity: 02 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	3D Printer equipment
4.	Quantity	- 2 Units
5.	Exposure screen:	- 13.6" monochrome
6.	Printing accuracy:	- 6,480 x 3,600 px (7K)
7.	Contrast ratio:	- 450:1
8.	Light source:	- Parallel matrix (LED lights x 84)
9.	Build plate:	- Laser engraved platform
10.	Printing speed:	- ≤ 60 mm/hr
11.	Control panel:	- 4.3" resistive touch-control
12.	Data input:	- USB-A 2.0
13.	Rated power:	- 120W
14.	Print size:	- 300 x 298 x 164 mm / 11.8 x 11.7 x 6.46 in. (HWD)
15.	Printing volume:	- 14.7 L / 498.5 oz
16.	Machine size:	- 596 x 400 x 408 mm / 23.5 x 15.7 x 16 in. (HWD)
17.	Machine weight:	- 21 kg / 46.3 lb"
18.	Colored UV Resin	- 3D Printer material - 100 unit (1kg each)

Sl.	Feature	Requirement of Procuring Entity
		<ul style="list-style-type: none"> - 6 color - Wavelength 355-410nm - Density 1.05-1.2Sg/cm³ - Viscosity 150-200 cP or mPa~s - 84 HS - Tensile strength 36-45 MPa - Elongation at break 11-20% - Flexural strength 50-70 MPa -

7. ITEM NAME: Sweetin 3D Food Printer

Quantity: 02 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	3D Printer equipment
4.	Quantity	- 2 Units
5.	Product Dimension	- 192mm*380mm*420mm
6.	Structure	- Sheet Metal
7.	Net Weight	- 12kg
8.	Package Weight	- 22.5kg
9.	Package Dimensions	- 57cm*57cm*34cm
10.	Material Capacity	- 60mL
11.	Printing Size	- 100mm*100mm*70mm
12.	Print Precision	- 0.2mm
13.	Printing Speed	- 15~70 mm/s
14.	Nozzle Diameter	- 0.6mm/0.84mm
15.	Supported Formats	- STL, G-code
16.	Connection Type	- USB Drive
17.	Screen	- 2.8 Inch Touch Screen

Sl.	Feature	Requirement of Procuring Entity
18.	Supported OS	- Windows
19.	Power	- 110/220V, 50Hz
20.	Printing Ingredients	- Dark chocolate. White chocolate, Mashed potato. Fruit jam, Biscuits, White bean paste, Cream candy, Purple potato mud.

8 ITEM NAME: CFZ-1000 Artificially intelligent Smart Fridge Vending Machine With PAX Card Reader

Quantity: 01 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Smart Home equipment
4.	Quantity	- 2 Units
5.	Outside Dimensions	- H: 2100mm, W: 1200mm, D: 650 mm
6.	Shelf	- 5 adjustable shelves
7.	Storage Capacity	- About 1000pcs (according to size of goods)
8.	Temperature	- 0-10°C
9.	Optional (Outdoor)	- 4-25°C(Heating module)
10.	Refrigeration	- Frost-free cooling system
11.	Recognition	- Weight sensing technology
12.	Electricity	- AC100V/240V,50Hz/60Hz
13.	Standard interface	- MDB/DEX
14.	Weight	- 220 kgs
15.	Payment	- Card Payment Functions

9 ITEM NAME: Touch screen smart mirror display

Quantity: 03 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Smart Home equipment
4.	Quantity	- 3 Units
5.	Mirror Dimension	- 1800mm X 600mm X 37mm
6.	CPU	- Dual-core Cortex-A72 + Quad-core Cortex-A53 up to 1.8GHz
7.	Memory	- 4GB RAM + 32GB ROM
8.	GPU	- Mali-T864
9.	System version	- RK3399 Android 9.0 or Upper
10.	Network	- WiFi 2.4GHz+5.0GHz 802.11 b/g/n
11.	The stereo	- 8Ω5W * 2
12.	Interface	- USB-type C*1, USB2.0*1,USB3.0*1,RJ45*1, DC12*1 AUDIO IN *1
13.	LCD Display size	- 43 inch (16: 9)
14.	Resolution	- 1920p*1080p
15.	Brightness	- 500cd/m2
16.	Chroma	- 16.7M
17.	Sweep frequency	- 60Hz
18.	Viewing angle	- 89°/89°/89°/89°
19.	Touch screen	- 10 points touch

10 ITEM NAME: Nest Hub Max

Quantity: 02 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder

Sl.	Feature	Requirement of Procuring Entity
3.	Solution Type	Smart Home equipment
4.	Quantity	- 2 Units
5.	Connected home device type	- Smart displays
6.	Networkable	- Yes
7.	Wi-Fi	- Wi-Fi 5 (802.11 ac)
8.	Bluetooth	- v5.0
9.	Smart home ecosystem	- Google Home
10.	Connected home features	- Yes
11.	Voice Control	- Yes
12.	Virtual Assistant Built-in	- Google Assistant
13.	Touchscreen	- Yes
14.	Display size (inches)	- 10
15.	Screen Resolution	- HD
16.	Resolution (Pixels)	- 1280 x 800
17.	Colour LCD screen	- Yes
18.	HD video	- Yes
19.	Manufacturer's warranty	- 1 Year

11 ITEM NAME: Nest Audio (Charcoal)

Quantity: 05 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Smart Home equipment
4.	Connected home device type	- Smart speaker
5.	Quantity	- 5 Units
6.	Smart speaker model	- Nest Audio
7.	Wireless	- Yes

Sl.	Feature	Requirement of Procuring Entity
8.	Networkable	- Yes
9.	Wi-Fi	- Wi-Fi 5 (802.11 ac)
10.	Bluetooth	- V5.0
11.	Smart home ecosystem	- Google Home
12.	Connected home features	- Yes
13.	Voice Control	- Yes
14.	Virtual Assistant Built-in	- Google Assistant
15.	Built-in microphone	- Yes
16.	Manufacturer's warranty	- 2 Years

12 ITEM NAME: Nest Protect Smoke Alarm (Wired)

Quantity: 05 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Smart Home equipment
4.	Quantity	- 5 Units
5.	Dimensions & Weight	- 5.3 in L • 5.3 in H
6.	Color	- White
7.	Sensors	- Split-Spectrum smoke sensor
8.	Battery	- Six long-life AA batteries
9.	Wireless	- 802.11b/g/n (2.4GHz) Wi-Fi
10.	Operating Temperature	- 409F (4 °C) to 1000F (38 °C)
11.	Audio	- 80 dB @ 3 ft (1 m) @ 1kHz
12.	Horn	- 85 dB SPL @ 10 ft (3 m)
13.	Warranty	- Two-year limited warranty
14.	Certification	- Complies with safety standards set out by UL

Sl.	Feature	Requirement of Procuring Entity
15.	External Buttons	- RGB color ring with 6 LEDs

13 ITEM NAME: Nest x Yale Lock

Quantity: 02 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Smart Home equipment
4.	Quantity	- 5 Units
5.	Length:	- 3.1 in (7.9 cm)
6.	Width:	- 2.2 in (5.6 cm)
7.	Depth:	- 1.2 in (3.0 cm) without prongs, 1.8 in (4.6 cm) with prongs
8.	Weight	- 0.98 oz (27.78 g)
9.	Power requirements	- Built-in rechargeable lithium-ion battery
10.	Power input	- 100-240 V~50-60Hz 0.12A
11.	Lights	- LED light
12.	Colors	- White
13.	Operating temperature	- 32° to 104°F (0° to 40°C) · Indoor use only
14.	Certification	- UL 60950-1, Information Technology Equipment, CAN/CSA-C22.2 NO. 60950-1, Information Technology Equipment
15.	Wireless	- Wi-Fi 802.11 b/g/n, 2.4GHz (WPA-PSK, WPA2-PSK, WEP encryption supported), Wi-Fi 802.11 b/g/n, 2.4GHz (WPA-PSK, WPA2-PSK, WEP encryption supported)
16.	Warranty	- Comes with a 2-year limited warranty

14 ITEM NAME: Nest Cam with floodlight (wired)

Quantity: 02 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	Smart Home equipment
4.	Quantity	- 5 Units
5.	Camera	- 1/2.8-inch, 2-megapixel sensor - 130° diagonal field of view - 6x digital zoom - 16:9 aspect ratio
6.	Video	- Up to 1080p at 30 FPS, HDR - 24/7 live view - Night vision with HDR - H.264 encoding
7.	Audio	- High-quality speaker and microphone - Full-duplex 2-way audio with noise cancellation
8.	Motion detection	- Camera: Single motion sensor 110° horizontal field of view Up to 25 ft (7.5 m) - Floodlight: Two motion sensors 180° horizontal field of view Up to 25 ft (7.5 m)
9.	Night vision	- Up to 20 ft (6.10 m) illumination - 6 high-power 850 nm infrared LEDs
10.	Lighting	- Two lights with adjustable brightness - 2400 lumens maximum brightness - 4000K color temperature
11.	Wireless	- 802.11a/b/g/n (2.4GHz/5GHz) Wi-Fi - WEP, WPA, WPA2, WPA3 encryption supported - Bluetooth Low Energy (BLE)
12.	Security	- On-device machine learning - Secure boot - Automatic security updates - 128-bit AES with TLS/SSL - Built-in magnetometer sensor

Sl.	Feature	Requirement of Procuring Entity
13.	Power	- Floodlight: Hardwired: 100-240V AC, 50/60Hz Continuously powers the camera - Camera: Built-in rechargeable 6 Ah, 3.65V lithium-ion battery
14.	Operating temperature	- -4°F to 104°F (-20°C to 40°C)
15.	color	- Snow
16.	Dimensions and weight	- Camera: Length: 3.27 in(8.3 cm) Diameter: 3.27 in(8.3 cm) Weight: 14.04 oz (398 g) - Floodlight: Length: 6.5 in (16.5 cm) Width: 12.4 in (31.5 cm) Height: 3.66 in (9.3 cm) Weight: 41.09 oz (1165 g)

15 ITEM NAME: Mixed Domain Oscilloscope (MOD) features up to six integrated instruments, including options like a spectrum analyzer, function generator

Quantity: 05 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Bandwidth	- 100 MHz to 1 GH
4.	Upgradeable Bandwidth	- Yes
5.	Analog Channels	- 2 or 4
6.	Analog Sample Rate	- Up to 5 GS/s
7.	Standard Record Length (All Channels)	- 10 M
8.	Integrated Arbitrary/Function Generator	- 50 MHZ (opt)
9.	Integrated Logic Channels (MSO)	- 16 (opt)

Sl.	Feature	Requirement of Procuring Entity
10.	Integrated Hardware Spectrum Analyzer	- Up to 3 GHz (opt)
11.	Standard Probes	- Up to 1 GHz Passive
12.	Warranty	- 3Years

16 ITEM NAME: 120MHz 2Ch Advanced-Series Arbitrary Waveform Generator

Quantity: 05 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Frequency	- 120MHz
4.	Channels	- 2Ch
5.	Refresh Rate	- 320MSa/s
6.	Memory Depth	- 16Mpts
7.	Vertical Resolution	- 16 Bits
8.	Display Size (in)	- 4.3in
9.	Warranty	- 3 years
10.	Shipping Dimmensions (L x W x H)	- 15 in x 13 in x 13 in
11.	Shipping Weight	- 10 lb
12.	Warranty	- 2 Years

17 ITEM NAME: Digital Multimeter

Quantity: 10 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Country of Manufacturer	To be mentioned by the bidder
4.	Measurement Functions	

Sl.	Feature	Requirement of Procuring Entity
		Voltage DC Range 4.000 V Resolution 0.001 V Range 40.00 V Resolution 0.01 V Range 400.0 V Resolution 0.1 V Range 1000 V Resolution 1 V Voltage AC Range 4.000 V Resolution 0.001 V Range 40.00 V Resolution 0.01 V Range 400.0 V Resolution 0.1 V Range 1000 V Resolution 1 V Current DC 0.1μA to 10A Current AC 0.1μA to 10A Resistance 0.1Ω to 40MΩ Capacitance 1nF to 10,000μF Frequency 0.01Hz to 100kHz Temperature -55°C to 400°C
5.	Basic Accuracy	DC Voltage 0.1% AC Voltage 1.0% DC Current 0.7% AC Current 1.5% Resistance 0.9%
6.	Maximum voltage between any terminal and earth ground	- 1000 V
7.	Display (LCD)	- 4000 counts, updates 3/sec
8.	Battery type	- 2 AA, NEDA 15 A, IEC LR6
9.	Battery life	- 500 hours minimum (50 hours in LED Test mode without load. The hours with load depends on the type of LED under test.)
10.	Temperature	- Operating: 0 °C to 40 °C; Storage: -30 °C to 60 °C
11.	Relative humidity	- Operating humidity: ≤ 90 % RH at 10 °C to 30 °C; ≤ 75 % RH at 30 °C to 40 °C; non-condensing (<10 °C)
12.	Operating humidity, 40 MQ range	- ≤ 80 % RH at 10 °C to 30 °C; ≤ 70 % RH at 30 °C to 40 °C
13.	Altitude	- Operating: 2000 m; Storage: 12,000 m
14.	Temperature coefficient	- 0.1 X (specified accuracy) /°C 18 °C or >28 °C)
15.	Fuse protection for current inputs	- 440 mA, 1000 V fast fuse, Fluke specified part only. 11 A, 1000 V fast fuse, Fluke specified

Sl.	Feature	Requirement of Procuring Entity
16.	Size (HxWxL)	- part only
17.	Weight	- 183 mm x 91 mm x 49.5 mm
18.	IP rating	- 455 g
19.	Safety	- IP40
20.	Electromagnetic environment	- IEC 61010-1, IEC61010-2-030 CAT III 600 V, CAT II 1000 V, Pollution Degree 2
21.	Electromagnetic compatibility	- IEC 61326-1: Portable
22.	Warranty	- 3 years

18 ITEM NAME: 30V 5A Programmable DC Power Supply

Quantity: 10 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Output Power	- 195W
4.	Power Supply Voltage	- 220V \pm 10% 50Hz or 110V \pm 10% 60Hz
5.	Adjust Range	- 0~30.00V 0~5.0000A
6.	Operation Conditions	- Temperature 0~40°C Relative humidity<80%
7.	Overall Dimensions	- L268×W125×H155mm \pm 5mm
8.	Weight	- 2.3kg
9.	Output Voltage accuracy	- \pm 0.02V
10.	Voltage Coefficient	- <300PPM/C
11.	Ripple noise voltage	- <1% Vrms
12.	OCP Current Value	- 0-5A, Accuracy: \pm 0.01A
13.	Signal test frequency range	- 30~1800MHz including cell phone signal test
14.	Signal Strength	- >10dBm

Sl.	Feature	Requirement of Procuring Entity
15.	Warranty	- 2 Years

19 ITEM NAME: 90W Temperature Adjustable 220V Digital Soldering Iron Kit 20 in 1 Set

Quantity: 20 Set

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Voltage	- AC220-240V OR AC100-130V
4.	Power	- 90W
5.	Frequency	- 50Hz/60Hz
6.	Temperature Range	- 180~500°C/356~932°F
7.	Temperature Stability	- ±5°C
8.	Heating Type	- Wmore Ceramics Element
9.	Soldering Iron Tips	- 900M-B1.2
10.	Wire Length	- 1.4m / 55.12in
11.	Soldering Iron Size	- Approx. 242*25*25mm / 9.6*0.98*0.98in
12.	Soldering Iron Weight	- Approx. 96g / 3.4oz
13.	Package Size	- Approx. 254*55*35mm / 10*2.2*1.4in
14.	Package Weight	- Approx. 139g / 4.9oz
15.	Voltage	- AC220-240V OR AC100-130V
16.	Warranty	- 1 Year

20 ITEM NAME: 2 In 1 SMD Rework and Soldering Station with digital LCD display

Quantity: 20 Set

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder

Sl.	Feature	Requirement of Procuring Entity
2.	Country of Origin	To be mentioned by the bidder
3.	Display method	- Smart LCD screen
4.	Air outlet device	- Blower
5.	Air volume	- 120L/Min
6.	Dimension	- 150*130*99mm
7.	Weight	- 2.5kg
8.	Power consumption	- 560W
9.	Hot air temp	- 100-500°C
10.	Length	- 120cm
11.	Weight	- 184g
12.	Power consumption	- 90W
13.	Temp range	- 200-480°C
14.	Handle length	- 120cm
15.	Warranty	- 1 Year

21 ITEM NAME: 186 pieces 16.8 Volt Electric Combo Kit Portable Lithium Battery Set
Brushless Power Tools Combo Kit Cordless

Quantity: 03 Set

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Tool Includes	- Electric Hammer, Spade, Drill, Multi-purpose wrench, Electric pen, Safety hammer, Scissors, Nail Gun, GEEN, Screwdriver, Coupon ruler, Multifunction knife, Screwdriver set, Electric Trimmer, Multimeter, Grinder, Electric Saw, Electric Wrench, Electric Drill, Ratchet handle, Lithium drill, Cross bit, Hose, Digging Tools, Inner hexagon, Needle nose pl, Water pump pliers, Solder wire, Cross screwdriver, Cultivator, Utility knife, Screw box, Brush Cutter, Mixer, Solder suction, Vice handle, Horizontal ruler, Pruning Tools, Trowel, Vise,

Sl.	Feature	Requirement of Procuring Entity
		Sprayer, Electric Screwdriver, Pickaxe, Angle Grinder, Electric Planer, Hand saw, Shovel, Gloves, Cleaning Tools, Rake, Combination, Plastic Cup, Fork, Sickle, Scraper, Wire stripper, Glue gun, Sander, Phillips screwdriver, Hole saw, Roller Grip, Angle grinder handle Charger, Round Head Brush, Polisher, Paint Roller, Soldering iron, Hoe, Insulation Tape
4.	Packaging Details	- Hard Case
5.	Dimensions	- 50.5x31x52cm
6.	No of tools	- 186
7.	Application	- household use drill kit
8.	Product name	- Electric Combo Kit
9.	Type	- Power Tool Combination Kits
10.	Usage	- Auto Repair Set
11.	Keywords	- Handtool Set
12.	Material	- Stainless Steel
13.	Tool Includes	- impact drill, hammer, tape measure
14.	Function	- Electrician, household, industrial
15.	Voltage	- 220V~240V
16.	MOQ	- 10 Sets
17.	Warranty	- 2 Years

22 ITEM NAME: High Quality 138pcs toolkit set for mechanical, home electrical maintenance and repairing works

Quantity: 03 Set

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Application	- Electrician, Home, daily life, telecommunications

Sl.	Feature	Requirement of Procuring Entity
4.	Type	- Electronics Tech Repair
5.	Function	- Multit-purpose
6.	Quantity	- 138pcs
7.	Weight	- 5.9KG
8.	Package Included	1 x 6pcs screwdriver sets 1 x 4pcs Flower type telecom screwdriver(T5-T6-T7-T8) 1 x wire cutter(8') 1 x Needle nose pliers(6') 1 x replaceable screwdriver(50*10mm) 1 x Three-purpose network pliers(4P-6P-8P) 1 x Wire stripper(6') 1 x adjustable wrench(10') 1 x Tin cleaner 1 x 9pcs hexagonal wrench sets(1.5-2-2.5-3-4-5-6-8-10) 1 x Utility knife(6') 1 x 10pcs Utility knife blade 1 x saw(10') 1 x Soldering wire 1 x band tape(5m*19mm) 1 x 8oz claw hammer 1 x 10pcs socket sets(4-5-6-7-8-9-10-11-12-13mm) 1 x saw's blade(10') 1 x 40W soldering iron 1 x soldering iron Bracket 1 x 6pcs mini screwdriver sets(SL1.4-2.0-2.4-3.0 PH 3.0-2.4) 1 x 22pcs Crystal Head(10*8P,6*6P,4*4P) 1 x digital multimeter 1 x Nylon cable tie(30pcs) 1 x digital test pen(12-250V) 1 x tape 1 x 25pcs 25MM screwdriver bit (PH 0-1-2-3 SL 3-4 H 3-4-5-6 PZ 1-2-3 T 10-15-20-25-27-30-40)
9.	Warranty	- 2 Years

23 ITEM NAME: High Quality 138PCS tools kit toolkit set hardware diy tool mechanical home electrical maintenance repairing.

Quantity: 03 Set

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Application	- Electrician
4.	Type	- Electronics Tech Repair
5.	Function	- Mult-purpose
6.	Logo	- Customized Logo
7.	Weight	- 6.5kg
8.	Port	- Shanghai Ningbo Port
9.	Product name	- Home Tool Set
10.	Usage	- Home Equipment
11.	Packaging Details	- 138pcs tools in 1 set in a mold case in a carton
12.	Selling Units:	- Single item
13.	Single package size:	- 55.5X13.5X37.5 cm
14.	Single gross weight:	- 7.300 kg
15.	Package Included	<p>Solder ingest: 14g anti-fake sticker 30*30MM</p> <p>Screwdriver: 50*10mm socket 1/4 10pc 4-5-6-7-8-9-10-11-12-13mm</p> <p>Screwdriver: 4*150mm.— bit set 10PC "+"0-1-2-3-AD "-"3-4-5-6-7</p> <p>Screwdriver: 4*150mm.+ bit set 10PC PZ1-2-3 T10-15-20-25-27-30-40</p> <p>Screwdriver: 3*150mm.+ Combination Pliers 8"</p> <p>screwdriver: 3*100mm measuring tape 5MX19MM</p> <p>screwdriver: 3*100mm MODLAR PLUG CRIMPING TOOL 8P, 6P, 4P</p> <p>electricians screwdriver: T5 adjustable wrench 10"</p> <p>electricians screwdriver: T6 hex key 10MM-181MM, 8MM-159MM, 6MM-141MM, 5MM-121MM, 4MM-108MM, 3MM-97MM, 2.5MM-89MM, 2MM-83MM, 1.5MM-77MM</p> <p>electricians screwdriver: T7 Crimping Pliers 6"</p> <p>electricians screwdriver: T8 Screwdriver 6*150mm."-"</p> <p>tweezers: 1.2MM Screwdriver 6*150mm."+"</p> <p>digital multimeter: DT33D blade 18*100MM(10pcs)</p> <p>long nose pliers: 6" electric tape 10Y</p> <p>soldering iron: 60w Claw Hammer 8oz</p> <p>tin-sucking device: 190MM Saw 10"</p> <p>Support: tie 2.5*150MM</p> <p>digital electric tseter: 12-250V Screwdriver 刀杆PH0*3*150</p>

Sl.	Feature	Requirement of Procuring Entity
		utility knife: 6" Crystal Head22PC precision screwdriver 6pcs: (-)1.4;2.0;2.4;3.0(+)3.0;2.4 Saw Blade 10",24T
16.	Warranty	- 2 Years

24 ITEM NAME: Adjustable pcb holder circuit board, 360 degree rotating, fixture welding bracket fixture welding repair tool

Quantity: 05 Set

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Material:	- ABS arm + metal base
4.	Max. circuit board size:	- 20 x 14 cm
5.	Circuit board thick:	- 1.2 /1.8 /2.0 / 3.0mm
6.	Dimensions:	- 30 x 16.5 x 12.5 cm
7.	DIY Supplies	- DIY Supplies
8.	Weight:	- 450 g: Individual packing
9.	Warranty	- 2 Years

25 ITEM NAME: 65-piece Electrician Tool Set Telecommunications Maintenance Tools
Electrician Advanced Maintenance Tools set

Quantity: 05 Set

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Package Size	- 458x330x150
4.	Package Included	03-132C: Utility component storage box 1PK-051DS: Dual Color Lineman's Plier(205mm) 1PK-067DS: Dual Color Side CuttingPlier (165mm) 1PK-108T: Reverse Action Tweezer (Self-Gripping) (165mm) 1PK-709DS: Dual Color Long Nose Plier (166mm) 1PK-H026: Adjustable Wrench - 6" 8PK-3161: 7 In 1 Crimping Tool 8PK-366N-G: Desoldering Pump

Sl.	Feature	Requirement of Procuring Entity
		908-609: IC Extractor 9DP-031B: Desoldering wick(2.0mm)Length(1.5M) 9DP-3616A: Square scraper/Stainless steel brush 9DP-3616B: Slotted shaft/Split 45 lever 9DP-3616C: Tapered reamer/Tapered needle 9DP-S001: Pen Solder 63% SC-130H-20: Ceramic soldering iron 220V 9SD-200-M5: Pro-Soft Screwdriver 5mm(metric) 9SD-200-M6: Pro-Soft Screwdriver 6mm(metric) 9H003: 3 Prong Holder 9HW-7106B: Double Open End Wrench 6x7mm 9HW-7108B: Double Open End Wrench 8x10mm 9HW-7111B: Double Open End Wrench 11x13mm 9HW-7112B: Double Open End Wrench 12x14mm 9HW-7114B: Double Open End Wrench 14x17mm 9HW-7117B: Double Open End Wrench 17x19mm 9K003A-1: Needle File Flat 9K003B-1: Needle File Round 9K003C-1: Needle File Square 9K003D-1: Needle File Triangle 9K003E-1: Needle File Semicircle 9MS-001: PVC Insulated Tape 9PK-153: Brush Black Handle 9SD-201A: Pro-Soft Screwdriver (-3.0 3.0x75mm)
5.	Warranty	- 2 Years

26 ITEM NAME: Digital Temperature, Humidity Meter 1.5M Probe

Quantity: 20 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Style	Temperature Humidity Clock
4.	Power	Power Consumption:1XAAA
5.	Function	Display temperature, humidity and time simultaneously Memory of MAX & MIN measuring value 12 hour / 24 hour displaying system selectable C/F unit selectable Clock & Calendar function (month and date) Desk-top placing or Wall Hanging
6.	Specification	Temperature range: -10 ~ +50C (14 ~ +122C) Humidity range: 10% ~ 99% RH Temperature resolution: 0.1C (0.1C)

Sl.	Feature	Requirement of Procuring Entity
		Humidity resolution: 1% RH Temperature accuracy: 1C (1.8°C) Humidity accuracy: 5% RH(40% ~ 80%)
7.	Color	- White, Or OEM Any Color
8.	Hour Format	- 12/24 Hour Time Display
9.	Temperature	- Temperature Display In C/F
10.	Thermometer	- Indoor Thermometer(-10C-+50C)
11.	Hygromter	- Indoor Hygrometer (10%-99%)
12.	Memory	- Max/Min Memory of Hygrometer And Thermometer
13.	Packing Way	- Bubble bag + White box
14.	Packing Details	- 79*44*26CM
15.	Warranty	- 2 Years

27 ITEM NAME: Outdoor Gateway - LoRaWAN EU868MHz

Quantity: 10 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 5 Units
5.	CPU	- TI AM3358 Cortex-A8 1GHz
6.	System	- Linux Debian
7.	RAM	- DDR3 512MB
8.	Memory	- 8GB eMMC
9.	Channel Plan	- 863~870MHz
10.	Long Range Power Output	- 25dBm
11.	Long Range Sensitivity	- -139.5dBm (SF12BW125)
12.	Ethernet	- 100Mbps FE (RJ-45)

Sl.	Feature	Requirement of Procuring Entity
13.	4G Band	LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28 LTE-TDD: B38/B39/B40/B41 WCDMA: B1/B2/B4/B5/B6/B8/B19 - GSM: 850/900/1800/1900MHz
14.	4G Features	Support non-CA Cat 4 FDD and TDD LTE-FDD: Max 150Mbps (DL), Max 50Mbps (UL) - LTE-TDD: Max 130Mbps (DL), Max 30Mbps (UL)
15.	UMTS Features	Support 3GPP R8 DC-HSDPA, HSPA+, HSDPA, HSUPA and WCDMA DC-HSDPA: Max 42Mbps (DL) HSUPA: Max 5.76Mbps (UL) - WCDMA: Max 384Kbps (DL), Max 384Kbps (UL)
16.	Long Range Antenna	- 2.5dBi gain / Vertical polarization / Omni-directional / SMA-J connector
17.	4G Antenna	- 0-4dBi gain / Linear polarization / Omnidirectional / SMA-J connector
18.	LED Indicator	- Indicating network condition (online/ offline)
19.	Grounding	- Reserved 1 screw hole for GND
20.	Power Consumption	- 3.6W
21.	Power Supply	- DC 12V/2A
22.	IP Rating	- IP66
23.	UV Resistance	- anti-aging (from rain/sun exposure): UL746C F1
24.	Enclosure Material	- PC
25.	Operating Temperature	- -40 °C to +70 °C
26.	Operating Humidity	- 0 to 100 %RH (non-condensing)
27.	Installation Method	- Wall or pole mounting
28.	Device Weight	- 777g
29.	Device Dimensions	- 256mm * 160mm * 81mm
30.	Certification	- CE, FCC, RoHS

28 ITEM NAME: Sensor Hub 4G Data Logger - with built-in rechargeable battery version

Quantity: 15 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 10 Units
5.	Wall Power	- DC 12V/2A
6.	Battery (4G-SH-03 Built-in)	- Voltage: 7.4V - Capacity: 6000mAh (rechargeable) - Operating temperature: - 0 °C ~ +45 °C (charge) - -20 °C ~ +60 °C (discharge)
7.	Solar Power (optional)	- Maximum power: 12wp - size: 340*255mm
8.	Power Supply for Sensor	- 5V/12V (depending on sensor types)
9.	Number of Sensor Connections	- 4 interfaces on device, can connect up to 32 sensors with extension hubs (*)
10.	Communication Protocol for Sensor	- Modbus-RTU RS485
11.	Maximum Sensor Load	- 12V/1A, 5V/2A
12.	Data Upload	- SenseCAP Portal (default) - User's Server (MQTT Server)
13.	APN	- Supports configuring APN
14.	Switch/ LED Indicator	- Switching power supply - Red LED indicates equipment status
15.	Grounding	- Reserved 1 screw hole for GND
16.	IP Rating	- IP66
17.	UV Resistance	- Anti-aging (from rain/sun exposure):UL746C
18.	Enclosure Material	- PC

Sl.	Feature	Requirement of Procuring Entity
19.	Operating Temperature	<ul style="list-style-type: none"> - 4G-SH-03: -20 °C ~ +60 °C - 4G-SH-04: -40 °C ~ +70 °C
20.	Operating Humidity	<ul style="list-style-type: none"> - 0 to 100 %RH (non-condensing)
21.	Installation Method	<ul style="list-style-type: none"> - Wall or pole mounting
22.	Device Weight (NW)	<ul style="list-style-type: none"> - 876g
23.	4G Features	<ul style="list-style-type: none"> - 4G Band: LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B12/ B13/B18/ B19/B20/B25/B26/B28 LTE-TDD: B38/B39/B40/B41 WCDMA: B1/B2/B4/B5/B6/B8/B19 GSM/EDGE: B2/B3/B5/B8 - LTE: LTE FDD: Max 150Mbps (DL)/Max 50Mbps (UL) LTE TDD: Max 130Mbps (DL)/Max 30Mbps (UL) - UMTS: DC-HSDPA: Max 42Mbps (DL) HSUPA: Max 5.76Mbps (UL) WCDMA: Max 384Kbps (DL)/Max 384Kbps (UL) - GSM: EDGE: Max 296Kbps (DL)/Max 236.8Kbps (UL) GPRS: Max 107Kbps (DL)/Max 85.6Kbps (UL)
24.	GPS	<ul style="list-style-type: none"> - Channel: 33 (Tracking)/ 99 (Acquisition)/ - 210 (PRN) - C/A Code - SBAS: WAAS, EGNOS, MSAS, GAGAN - Horizontal Position Accuracy: - Autonomous: <2.5m CEP - Velocity Accuracy: - Without Aid: <0.1m/s
25.	4G Antenna	<ul style="list-style-type: none"> - 0-4 dBi gain / Linear polarization / Omnidirectional / SMA-J connector

29 ITEM NAME: M1 LoRaWAN Indoor Gateway - EU868

Quantity: 04 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 2 Units
5.	Processor	- Raspberry Pi 4 (Broadcom BCM2711, Quad core Cortex-A72 (ARM v8) 64-bit SoC @ 1.5GHz)
6.	RAM	- 2GB / 4GB / 8GB
7.	Storage	- 64GB MicroSD Card
8.	Frequency	- EU868 Version: 863MHz ~ 870MHz - US915 Version: 902MHz ~ 928MHz
9.	Sensitivity	- -125dBm @125KHz/SF7
10.		- -139dBm @125KHz/SF12
11.	TX Power	- Up to 26 dBm
12.	Antenna Gain	- US915: 2.6 dBi - EU868: 2.8 dBi
13.	Antenna Impedance	- 50 Ohm
14.	Antenna Radiation Pattern	- Omni-Directional
15.	Wi-Fi	- 2.4 GHz and 5.0 GHz IEEE 802.11ac wireless
16.	Bluetooth	- Bluetooth 5.0, BLE
17.	LoRaWAN	- Supports Class A, C
18.	Input Voltage	- DC 5V - 3A
19.	Interfaces	- USB Type-C (Power Supply) * 1 - Ethernet RJ45 * 1 - RP-SMA Female Antenna Connector* 1
20.	Operating Temperature	- 0°C to 50°C

Sl.	Feature	Requirement of Procuring Entity
21.	Relative Humidity	- 0% - 90% (non-condensing)
22.	Heat Dissipation	- Aluminum enclosure, a heatsink, and a cooling fan
23.	IP Grade	- IP20
24.	Certification	- FCC / CE

30 ITEM NAME: Industrial Soil Moisture & Temperature Sensor MODBUS-RTU RS485, 0-2V Analog Voltage (S-Soil MT-02A)

Quantity: 20 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 20 Units
5.	Product Model	- S-Soil MT-02A
6.	Interface	- RS-485 0 - 2V voltage
7.	Protocol	- MODBUS-RTU RS485
8.	Power Supply	- 3.6 ~ 30V DC. - 3.9 ~ 30V DC
9.	Current Consumption	- 6mA @24V DC
10.	Operating Temperature	- -40°C ~ +85°C
11.	Storage Temperature	- -40°C ~ +85°C
12.	Response Time	- < 1 second
13.	Measuring Area	- A cylinder area(with the probe as the center, diameter: 7cm, height: 7cm)
14.	Probe Material	- Food-grade stainless steel
15.	Seal Material	- Black flame-retardant epoxy resin
16.	IP Rating	- IP68
17.	Cable Length	- 5 meters

Sl.	Feature	Requirement of Procuring Entity
18.	Installation	- All buried or probe into the media to be measured
19.	Device Weight	- 270g
20.	Soil Temperature	- Range: -40°C ~ +80°C - Accuracy: ± 0.5 °C - Resolution: 0.1°C
21.	Soil Moisture	- Range: From completely dry to fully saturated (From 0% to 100% of saturation) - Accuracy: ±3% (0~53%) ±5% (53~100%) - Resolution: 1%

31 ITEM NAME: Industrial Soil Moisture & Temperature Sensor MODBUS-RTU RS485, 0-2V Analog Voltage (S-Soil MT-02B), with waterproof aviation connector

Quantity: 20 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 20 Units
5.	Product Model	- S-Soil MT-02B
6.	Interface	- RS-485 0 - 2V voltage
7.	Protocol	- MODBUS-RTU RS485
8.	Power Supply	- 3.6 ~ 30V DC. - 3.9 ~ 30V DC
9.	Current Consumption	- 6mA @24V DC
10.	Operating Temperature	- -40°C ~ +85°C
11.	Storage Temperature	- -40°C ~ +85°C
12.	Response Time	- < 1 second

Sl.	Feature	Requirement of Procuring Entity
13.	Measuring Area	- A cylinder area(with the probe as the center, diameter: 7cm, height: 7cm)
14.	Probe Material	- Food-grade stainless steel
15.	Seal Material	- Black flame-retardant epoxy resin
16.	IP Rating	- IP68
17.	Cable Length	- 5 meters
18.	Installation	- All buried or probe into the media to be measured
19.	Device Weight	- 270g
20.	Soil Temperature	- Range: -40°C ~ +80°C - Accuracy: ± 0.5 °C - Resolution: 0.1°C
21.	Soil Moisture	- Range: From completely dry to fully saturated (From 0% to 100% of saturation) - Accuracy: ±3% (0~53%) ±5% (53~100%) - Resolution: 1%

32 ITEM NAME: Industrial Soil Moisture & Temperature & EC Sensor MODBUS-RTU RS485 (S-Soil MTEC-02A)

Quantity: 20 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 20 Units
5.	Product Model	- S-Temp&VWC&EC-02A
6.	Interface	- RS-485
7.	Protocol	- MODBUS-RTU RS485
8.	Power Supply	- 3.6 ~ 30V DC

Sl.	Feature	Requirement of Procuring Entity
9.	Current Consumption	<ul style="list-style-type: none"> - 6mA@24V DC - (Quiescent dissipation)
10.	Operating Temperature	<ul style="list-style-type: none"> - -40°C ~ +85°C
11.	Probe Material	<ul style="list-style-type: none"> - Anti-corrosion special electrode
12.	Sealing Material	<ul style="list-style-type: none"> - Black flame-retardant epoxy resin
13.	IP Rating	<ul style="list-style-type: none"> - IP68
14.	Cable Length	<ul style="list-style-type: none"> - 5 meters
15.	Installation	<ul style="list-style-type: none"> - All buried or probe into the media to be measured
16.	Device Weight	<ul style="list-style-type: none"> - 210g
17.	Soil Temperature	<ul style="list-style-type: none"> - Range: -40°C ~ +80°C - Accuracy: ± 0.5 °C - Resolution: 0.1°C
18.	Soil Moisture	<ul style="list-style-type: none"> - Range: From completely dry to fully saturated (from 0% to 100% of saturation) - Accuracy: ±2% (0~50%) ±3% (50~100%) - Resolution: 0.03% (0~50%) 1% (50~100%)
19.	Electrical Conductivity	<ul style="list-style-type: none"> - Range: 0 ~ 10000 µs/cm - Accuracy: ± 3% - Resolution: 10 µs/cm - Temperature Compensation: Built-in temperature compensation sensor, Range: 0-50°C

33 ITEM NAME: Industrial Soil Moisture & Temperature & EC Sensor MODBUS-RTU RS485 (S-Soil MTEC-02B), with waterproof aviation connector

Quantity: 20 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder

Sl.	Feature	Requirement of Procuring Entity
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 20 Units
5.	Product Model	- S-Temp&VWC&EC-02B
6.	Interface	- RS-485
7.	Protocol	- MODBUS-RTU RS485
8.	Power Supply	- 3.6 ~ 30V DC
9.	Current Consumption	- 6mA@24V DC - (Quiescent dissipation)
10.	Operating Temperature	- -40°C ~ +85°C
11.	Probe Material	- Anti-corrosion special electrode
12.	Sealing Material	- Black flame-retardant epoxy resin
13.	IP Rating	- IP68
14.	Cable Length	- 5 meters
15.	Installation	- All buried or probe into the media to be measured
16.	Device Weight	- 210g
17.	Soil Temperature	- Range: -40°C ~ +80°C - Accuracy: ± 0.5 °C - Resolution: 0.1°C
18.	Soil Moisture	- Range: From completely dry to fully saturated (From 0% to 100% of saturation) - Accuracy: ±2% (0~50%) ±3% (50~100%) - Resolution: 0.03% (0~50%) 1% (50~100%)
19.	Electrical Conductivity	- Range: 0 ~ 10000 µs/cm - Accuracy: ± 3% - Resolution: 10 µs/cm - Temperature Compensation:

Sl.	Feature	Requirement of Procuring Entity
		Built-in temperature compensation sensor, Range: 0-50°C

34 ITEM NAME: Industrial pH Sensor MODBUS-RTU RS485 & 0~2V Analog Voltage (S-pH-01A) V2.0

Quantity: 20 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 10 Units
5.	Product Model	- S-pH-01A
6.	Output Interface	- Analog Voltage 0-2V (Output resistance ~0ohm) - RS-485 MODBUS-RTU
7.	Power Supply	- 3.9-30V/DC
8.	Power Consumption	- 35mA@24V DC
9.	Start-up time	- < 2 seconds
10.	pH Measurement	High impedance and isolated input; Range: 0 - 14PH, Resolution: 0.01PH, Accuracy: +/- 0.1PH; - Can be used for a solution or semi-solid substrate
11.	Temperature Measurement	Range: - 40~80°C, Resolution: 0.1°C, - Accuracy: +/-0.5°C
12.	IP Rating	Electrode: IP68; - Transmitter: IP65
13.	Operating Temperature	- -40°C ~ 85°C
14.	Installation	Electrode: 3/4"NPT screw threads; - Transmitter: Mounting hole

Sl.	Feature	Requirement of Procuring Entity
15.	Cable Length	Power and Signal Cable:2 meters (Customizable) - Electrode Cable: 5 meters
16.	Dimension	Electrode: Width*Diameter 160*30mm; 3/4"NPT screw threads - Transmitter: 140mm*65mm*50mm

35 ITEM NAME: Industrial-Grade Optical Rain Gauge RG-15 Rain Sensor

Quantity: 10 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 10 Units
5.	Nominal Accuracy	- $\pm 10\%$
6.	Input Voltage	- Range 5-15 VDC 50V surge on J1 Reverse polarity protected to 50V or 3.3VDC through pin 8 on J2
7.	Current Drain (Not final)	- 110 μ A nominal. (No outputs on, dry not raining) 2-4 mA when raining
8.	Output	- NPN Open Collector Output 100 mA / 80V Max
9.	Operating Temperature	- -40°C to $+60^{\circ}\text{C}$ (Will not detect rain when freezing)
10.	Output Resolution	- 0.01in / 0.2mm or 0.001in / 0.02mm
11.	RS232 Port	- 3.3 V
12.	Supported Baud Rates	- 1200, 2400, 4800, 9600, 19200, 38400, 57600
13.	Connection Pins	- J1 Terminal - J1 - Out - J1 - V+ - J1 - GND - J2 Header - J2 - 1 GND - J2 - 2 V+ (Same as J1 V+) - J2 - 3 OUT (Same as J1 OUT) - J2 - 4 RS232 OUT

Sl.	Feature	Requirement of Procuring Entity
		<ul style="list-style-type: none"> - J2 - 5 RS232 IN - J2 - 6 - J2 - 7 MCLR - J2 - 8 3.3V

36 ITEM NAME: High-efficiency Waterproof PV-12W Solar Panel, w/ Brackets for Easy Installation

Quantity:20 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 20 Units
5.	Module type	- Monocrystalline silicon
6.	Peak power	- 12Wp
7.	Open circuit voltage	- 14V
8.	Short circuit current	- 1A
9.	Package size	- 350mm*250mm*25mm
10.	Package weight	- around 1.1kg
11.	Solar cell type	- Monocrystalline silicon
12.	Peak power	- 12Wp
13.	Open circuit voltage(Voc)	- 14V
14.	Short circuit current (Isc)	- 1A
15.	Working voltage (Vmppt)	- 12V
16.	Working current (Imppt)	- 1A
17.	maximum voltage the system can withstand	- 1000Vdc

Sl.	Feature	Requirement of Procuring Entity
18.	Module size	- 350*250*25mm
19.	Peak power temperature coefficient	- -0.45%/°C
20.	Open circuit voltage temperature coefficient	- -0.35%/°C
21.	Short-circuit current temperature coefficient	- +0.05%/°C
22.	Operating temperature range	- -20~70°C
23.	Maximum wind/snow load	- 2400/5400 Pa

37 ITEM NAME: Industrial Leaf Wetness and Temperature Sensor (S-YM-01B), MODBUS RTU RS485, with Waterproof Aviation Connector

Quantity: 10 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 10 Units
5.	Output Interface	- RS485 Modbus-RTU
6.	Power Supply	- 3.6-30V/DC
7.	Power Consumption	- 6mA@24V DC
8.	Leaf wetness Measurement	- Range:0-100%, Resolution: 0.1%, Accuracy: 5%
9.	Temperature Compensation	- Range: -40~80°C, Resolution:0.1 °C, Accuracy: ±0.5 °C
10.	Measurement Technique	- FDR
11.	IP Ratings	- IP68
12.	Operating Temperature	- -40~85°C

Sl.	Feature	Requirement of Procuring Entity
13.	Sensor Sealed	- Epoxy resin
14.	Installation	- Mounting kit
15.	Cable Length	- 2 meters
16.	Dimension	- 65*13*145mm

38 ITEM NAME: ONE S700 7-in-1 Compact Weather Sensor

Quantity: 06 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 4 Units
5.	Parameters Measured	- air temperature, relative humidity, barometric pressure, light intensity, precipitation intensity, wind speed and wind direction
6.	Protocol	- RS 485 (MODBUS-RTU) / 232 / 422 (Modbus) / SDI-12
7.	Cable Length	- 3m
8.	Operating Temperature & Humidity	- -40 °C ~ + 85 °C, 0 ~ 100%RH
9.	IP Rating	- IP66
10.	Device Weight	- 2.39g
11.	Air Temperature	- Range: - 40 °C ~ + 85 °C - Accuracy: ± 0.1°C - Resolution: 0.01 °C
12.	Air Humidity	- Range: 0 ~ 100% RH - Accuracy: ± 1.5% RH - Resolution: 0.01% RH
13.	Barometric Pressure	- Range: 300 ~ 1250 hPa - Accuracy: ± 50 Pa - Resolution: 10 Pa

Sl.	Feature	Requirement of Procuring Entity
14.	Light Intensity	<ul style="list-style-type: none"> - Range 0 ~ 188000 Lux - Accuracy $\pm 5\%$ x (measurement value) - Resolution: 5 Lux
15.	Wind Speed (Ultrasonic)	<ul style="list-style-type: none"> - Range: 0 ~ 60 m/s - Accuracy: $\pm 3\%$ - Resolution: 0.1 m/s
16.	Wind Direction (Ultrasonic)	<ul style="list-style-type: none"> - Range: 0 ~ 360 ° - Accuracy: $\pm 3^\circ$ - Resolution: 0.1°
17.	Rainfall Intensity (Optical)	<ul style="list-style-type: none"> - Range: 0 ~ 200 mm/h - Accuracy: $\pm 10\%$ - Resolution: 0.02 mm/h

39 ITEM NAME: ONE S900 9-in-1 Compact Weather Sensor

Quantity: 04 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 2 Units
5.	Parameters Measured	- air temperature, relative humidity, barometric pressure, light intensity, precipitation intensity, PM2.5, PM10, wind speed, and wind direction
6.	Protocol	- RS 485 (MODBUS-RTU) / 232 / 422 (Modbus) / SDI-12
7.	Cable Length	- 3m
8.	Operating Temperature & Humidity	- -40 °C ~ + 85 °C, 0 ~ 100%RH
9.	IP Rating	- IP66
10.	Device Weight	- 2.39kg
11.	Air Humidity	<ul style="list-style-type: none"> - Range: 0 ~ 100% RH - Accuracy: $\pm 1.5\%$ RH

Sl.	Feature	Requirement of Procuring Entity
		- Resolution: 0.01% RH
12.	Barometric Pressure	- Range: 300 ~ 1250 hPa - Accuracy: ± 50 Pa - Resolution: 10 Pa
13.	Light Intensity	- Range: 0 ~ 188000 Lux - Accuracy: $\pm 5\%$ x (measurement value) - Resolution: 5 Lux
14.	Wind Speed (Ultrasonic)	- Range: 0 ~ 60 m/s - Accuracy: $\pm 3\%$ - Resolution: 0.1 m/s
15.	Wind Direction (Ultrasonic)	- Range: 0 ~ 360 ° - Accuracy: $\pm 3^\circ$ - Resolution: 0.1°
16.	Rainfall Intensity (Optical)	- Range: 0 ~ 200 mm/h - Accuracy: $\pm 10\%$ - Resolution: 0.02 mm/h
17.	PM 2.5	- Range: 0-1000 μ g per m ³ - Accuracy: $\pm 10\mu$ g/m ³ at 0-100 μ g/m ³ $\pm 10\pm$ at 0-100 - Resolution: 1 μ g/m ³
18.	PM 10	- Range: 0-1000 μ g per m ³ - Accuracy: $\pm 15\mu$ g/m ³ at 0-100 μ g/m ³ $\pm 15\pm$ at 0-100 μ g/m ³ - Resolution: 1 μ g/m ³

40 ITEM NAME: S2101- LoRaWAN® Air Temperature and Humidity Sensor - Ambient Air Temperature Sensor

Quantity: 20 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 10 Units

Sl.	Feature	Requirement of Procuring Entity
5.	Product Model	- S2101
6.	Microcontroller	- Wio-E5
7.	Support Protocol	- LoRaWAN v1.0.3 Class A
8.	Built-in Bluetooth	- App Tool to change parameters
9.	LoRaWAN Channel Plan	- IN865/EU868/US915/AU915/ AS923/KR920/RU864 *
10.	Max Transmitted Power Sensitivity	- 19dBm
11.	Sensitivity	- -136dBm@SF12 BW=125KHz
12.	Communication Distance	- 2 to 10km (depending on gateway antenna and environments)
13.	IP Rating	- IP66
14.	Operating Temperature	- -40 to +85 °C
15.	Operating Humidity	- 0 to 100% RH (non-condensing)
16.	Device Weight	- 280g
17.	Battery Life	- <u>Up to 10 years**</u>
18.	Battery Capacity	- 19Ah (non-rechargeable)
19.	Battery Type	- Standard D-size SOCl2 Battery
20.	Air Temperature	- Range: -40 to +85 °C - Accuracy: ±0.2 °C - Resolution: 0.01 °C - Long-term Drift: <0.03 °C/year
21.	Air Humidity	- Range: 0 to 100%RH - Accuracy: ±1.8 %RH - Resolution: 0.01 %RH - Long-term Drift: <0.25 %RH/year

41 ITEM NAME: S2102 - LoRaWAN Wireless Light Intensity Sensor

Quantity: 20 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder

Sl.	Feature	Requirement of Procuring Entity
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 10 Units
5.	Product Model	- S2102
6.	Microcontroller	- Wio-E5
7.	Support Protocol	- LoRaWAN v1.0.3 Class A
8.	Built-in Bluetooth	- App Tool to change parameters
9.	LoRaWAN Channel Plan	- IN865/EU868/US915/AU915/ AS923/KR920/RU864 *
10.	Max Transmitted Power	- 19dBm
11.	Sensitivity	- -136dBm@SF12 BW=125KHz
12.	Communication Distance	- 2 to 10km (depending on gateway antenna and environments)
13.	IP Rating	- IP66
14.	Operating Temperature	- -40 to +85 °C
15.	Operating Humidity	- 0 to 100 %RH (non-condensing)
16.	Device Weight	- 280g
17.	Certification	- CE / FCC / RoHS
18.	Light Intensity	- Range: 0 to 160000 Lux - Accuracy: ±5% - Resolution: 1 Lux
19.	Battery Life	- <u>Up to 10 years**</u>
20.	Battery Capacity	- 19Ah (non-rechargeable)
21.	Battery Type	- Standard D-size SOCl2 Battery

42 ITEM NAME: S2103 LoRaWAN® CO2, Temperature, and Humidity Sensor for Outdoor & Indoor Air Quality, CO2 Meter, Carbon Emission

Quantity: 20 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 10 Units
5.	Product Model	- S2103
6.	Microcontroller	- Wio-E5
7.	Support Protocol	- LoRaWAN v1.0.3 Class A
8.	Built-in Bluetooth	- App Tool to change parameters
9.	LoRaWAN Channel Plan	- IN865/EU868/US915/AU915/AS923/KR920/RU864 *
10.	Max Transmitted Power Sensitivity	- 19dBm
11.	Sensitivity	- -136dBm@SF12 BW=125KHz
12.	Communication Distance	- 2 to 10km (depending on gateway antenna and environments)
13.	IP Rating	- IP66
14.	Operating Temperature	0 to +50 °C (Effective measurement range of CO ₂) - -40 to +85 °C (CO ₂ module not included)
15.	Operating Humidity	- 0 to 90 % RH (non-condensing)
16.	Device Weight	- 285g
17.	Certification	- CE / FCC / RoHS
18.	Battery Life	- <u>Up to 10 years**</u>
19.	Battery Capacity	- 19Ah (non-rechargeable)
20.	Battery Type	- Standard D-size SOCl ₂ Battery
21.	CO ₂	- Range: 400 to 10000 ppm - Accuracy: ±(30 ppm +3% of reading) (extended range ±10% of reading) - Resolution: 1 ppm
22.	Air Temperature	- Range: -40 to +85 °C - Accuracy: ±0.2 °C - Resolution: 0.01 °C:

Sl.	Feature	Requirement of Procuring Entity
		- Long-term Drift: <0.03 °C/year
23.	Air Humidity	- Range: 0 to 100 %RH - Accuracy: ±1.8 %RH - Resolution: 0.01 %RH - Long-term Drift: <0.25 %RH/year

43 ITEM NAME: S2104 - LoRaWAN® Soil Moisture and Temperature Sensor

Quantity: 20 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 10 Units
5.	Product Model	- S2104
6.	Microcontroller	- Wio-E5
7.	Support Protocol	- LoRaWAN v1.0.3 Class A
8.	Built-in Bluetooth	- App Tool to change parameters
9.	LoRaWAN Channel Plan	- IN865/EU868/US915/AU915/AS923/KR920/RU864 *
10.	Max Transmitted Power Sensitivity	- 19dBm
11.	Sensitivity	- -136dBm@SF12 BW=125KHz
12.	Communication Distance	- 2 to 10km (depending on gateway antenna and environments)
13.	IP Rating	- IP66
14.	Operating Temperature	- -40 to +85 °C
15.	Operating Humidity	- 0 to 100 %RH (non-condensing)
16.	Device Weight	- 405g
17.	Cable Length	- 5 meters
18.	Certification	- CE / FCC / RoHS

Sl.	Feature	Requirement of Procuring Entity
19.	Battery Life	- <u>Up to 10 years**</u>
20.	Battery Capacity	- 19Ah (non-rechargeable)
21.	Battery Type	- Standard D-size SOCl ₂ Battery
22.	Soil Temperature	- Range: -40 to +80 °C - Accuracy: 0 to 50°C: ±0.5 °C -40 to 0, 50 to 80°C: ±1 °C - Resolution: 0.1 °C
23.	Soil Moisture (VWC-Volumetric Water Content)	- Range: 0 to 100% (air-water) - Accuracy: 0 to 50%: ±3% 50 to 100%: ±5% - Resolution: 0 to 50%: 0.1% 50 to 100%: 0.5%

44 ITEM NAME: S2100 - LoRaWAN® Data Logger, Supports RS485/Analog/GPIO Interfaces, LoRaWAN Converter

Quantity: 20 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 10 Units
5.	Product Model	- SenseCAP S2100
6.	Microcontroller	- Wio-E5
7.	Support Protocol	- LoRaWAN v1.0.3 Class A
8.	Built-in Bluetooth	- App Tool to change parameters and set data conversion algorithm
9.	Long-Range Channel Plan	- IN865/EU868/US915/AU915/ AS923*
10.	Max Transmitted Power	- 19dBm

Sl.	Feature	Requirement of Procuring Entity
11.	Sensitivity	- -136dBm@SF12 BW=125KHz
12.	Communication Distance	- 2 to 10km (depending on and environment)
13.	IP Rating	- IP66
14.	Operating Temperature	- -40 to +85 °C
15.	Operating Humidity	- 0 to 100 %RH (non-condensing)
16.	Device Weight	- 280g
17.	Certification	- CE / FCC / RoHS
18.	Battery Life	- Up to 10 years**
19.	Battery Capacity	- 19Ah (non-rechargeable)
20.	Battery Type	- Standard D-size SOCl2 Battery
21.	Interface	- Current Input: 4 to 20 mA (2 channel) - Voltage Input: 0 to 10V (2 channel) - RS485: RS485 Modbus-RTU Protocol

45 ITEM NAME: S2105 - LoRaWAN® Soil Moisture, Temperature and EC Sensor

Quantity: 20 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 10 Units
5.	Product Model	- S2105
6.	Microcontroller	- Wio-E5
7.	Support Protocol	- LoRaWAN® v1.0.3 Class A
8.	Built-in Bluetooth	- App Tool to change parameters
9.	LoRaWAN® Channel Plan	- IN865/EU868/US915/AU915/ AS923/KR920/RU864 *
10.	Max Transmitted Power	- 19dBm

Sl.	Feature	Requirement of Procuring Entity
11.	Sensitivity	- -136dBm@SF12 BW=125KHz
12.	Communication Distance	- 2 to 10km (depending on gateway antenna and environments)
13.	IP Rating	- IP66
14.	Operating Temperature	- -40 to +85 °C
15.	Operating Humidity	- 0 to 100 %RH (non-condensing)
16.	Device Weight	- 405g
17.	Cable Length	- 5 meters
18.	Battery Life	- <u>Up to 10 years**</u>
19.	Battery Capacity	- 19Ah (non-rechargeable)
20.	Battery Type	- Standard D-size SOCl ₂ Battery
21.	Soil Moisture (VWC- Volumetric Water Content)	- Range: 0 to 100% (air-water) - Accuracy: 0 to 50%: ±3% 50 to 100%: ±5% - Resolution: 0 to 50%: 0.1% 50 to 100%: 0.5%
22.	Soil Temperature	- Range: -40 to +80 °C - Accuracy: 0 to 50°C: ±0.5 °C - 40 to 0, 50 to 80°C: ±1 °C - Resolution: 0.1 °C
23.	Electrical Conductivity (Only supported in S2105)	- Range: 0 to 23 dS/m - Accuracy: 0 to 5 dS/m: ±5% 5 to 23 dS/m: ±10% - Resolution: 0 to 5 dS/m: 0.01dS/m 5 to 23 dS/m: 0.1dS/m

46 ITEM NAME: S2120 8-in-1 LoRaWAN Weather Sensor

Quantity: 10 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder

Sl.	Feature	Requirement of Procuring Entity
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 5 Units
5.	Product Model	- S2120
6.	Microcontroller	- WM-LR1110
7.	Support Protocol	- LoRaWAN v1.0.3 Class A
8.	Built-in Bluetooth	- App Tool to change parameters
9.	LoRaWAN Channel Plan	- IN865/EU868/US915/AU915/ AS923/KR920/RU864 *
10.	GPS	- Need to customize
11.	LoRaWAN Max Transmitted Power	- 21dBm
12.	LoRa Sensitivity	- -141dBm@SF12 BW=125KHz
13.	Communication Distance	- 2 to 10km (depending on gateway antenna and environments)
14.	Protection grade	- Suitable for outdoor scenes
15.	Operating Temperature	-20 to +60 °C (Alkaline battery) - -40 to +60 °C (Lithium battery)
16.	Operating Humidity	- 0~99%RH
17.	Device Weight	- 1.5kg
18.	Air Temperature	- Range: -40.0 ~ 80.0 °C - Accuracy: ±0.5°C (0~80°C); ±0.6°C (-40~0°C) - Resolution: 0.1°C
19.	Rainfall Intensity	- Range: 0 ~ 450 mm/h - Accuracy: ± 7% - Resolution: 0.254 mm/h
20.	Air Humidity	- Range: 1~99 %RH - Accuracy: ±3% (1~90%RH); ±4% (90~99%RH) - Resolution: 1%RH
21.	Barometric Pressure	- Range: 540 ~ 1100hPa - Accuracy: ±5hPa(700~1100hPa); - ±8hPa (540 ~ 699hPa)

Sl.	Feature	Requirement of Procuring Entity
		- Resolution: 1hPa
22.	Wind Speed	- Range: 0~50.0m/s - Accuracy: $\pm 0.5\text{m/s}(<5\text{m/s})$; $\pm 10\%$ ($> 5\text{m/s}$) - Resolution: 0.1 m/s
23.	Wind Direction	- Range: 0~360° - Accuracy: $\pm 8^\circ$ - Resolution: 1°
24.	Light Intensity	- Range: 0 ~ 200000 lux - Accuracy: $\pm 5\%$ - Resolution: 1lux
25.	UV Index	- Range: 0 ~ 16.0 - Accuracy: $\pm 10\%$ - Resolution: 0.1
26.	Power Supply	- Solar Panel: 0.5W (When there is sunlight, solar panels will be used first, otherwise batteries will be used) - Battery Type**: AA size, 1.5V batteries (alkaline or non-rechargeable Lithium battery), batteries not included. - Number of Battery: Option1, built-in battery box: 3 * AA battery, batteries not included. - Option2, external battery box: 6 *AA battery, batteries not included - Battery Life: 2 years (Solar Panel + 6*AA Battery, 1h/uplink) - External Battery Box: Support 6 * AA 1.5V batteries (batteries not included) Cable: 2m IP Rating: IPX6

47 ITEM NAME: A1101 - LoRaWAN Vision AI Sensor, Open the Door to the TinyML world

Quantity: 20 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 10 Units
5.	ML Framework	- TensorFlow Lite/PyTorch
6.	AI Hardware Acceleration	- 400Mhz DSP
7.	Model Resolution	- 192*192 pixel
8.	Camera Field of view	- Diagonal 82°
9.	Camera Resolution	- 30W pixel
10.	Product Model	- A1101
11.	Microcontroller	- Wio-E5
12.	Support Protocol	- LoRaWAN v1.0.3 Class A
13.	Built-in Bluetooth	- App Tool to change parameters
14.	LoRaWAN Channel Plan	- IN865/EU868/US915/AU915/ AS923/KR920/RU864
15.	Max Transmitted Power	- 19dBm
16.	Sensitivity	- -136dBm@SF12 BW=125KHz
17.	Communication Distance	- 2 to 10 km (depending on gateway antenna and environments)
18.	IP Rating	- IIP66
19.	Operating Temperature	- -40 to +85 °C
20.	Operating Humidity	- 0 to 100 %RH (non-condensing)
21.	Device Weight	- 280g
22.	Certification	- CE / FCC / ROHS
23.	Battery Life	- Up to 10 years**

Sl.	Feature	Requirement of Procuring Entity
24.	Battery Capacity	- 19Ah (non-rechargeable)
25.	Battery Type	- Standard D-size SOCl ₂ Battery

48 ITEM NAME: RS485 Temperature and Humidity Sensor – Connector

Quantity: 20 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 10 Units
5.	Signal Output	- RS485 Modbus Protocol
6.	Power supply	- 3.6-30V/DC
7.	Current Consumption	- 4mA @24V DC
8.	Humidity Measurement Range	- 0-100%RH, Resolution 0.01% Accuracy: ±3%RH
9.	Temperature Measurement Range	- -40~80°C, Resolution: 0.01°C, Accuracy±0.3°C
10.	IP Rating	- IP54
11.	Operating Temperature	- -40~85°C
12.	Installation Methods	- Wall-mounted Installation and Tube installation
13.	Cable Length	- 2M
14.	Connection Methods	- Aviation connector and Hook-up wire

49 ITEM NAME: Industrial-grade MODBUS RS485 Temperature and Humidity Sensor

Quantity: 20 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder

Sl.	Feature	Requirement of Procuring Entity
3.	Solution Type	IoT equipment
4.	Quantity	- 10 Units
5.	Signal Output	- RS485 Modbus Protocol
6.	Power supply	- 3.6-30V/DC
7.	Current Consumption	- 4mA@24V DC
8.	Humidity Measurement Range	- 0-100%RH, Resolution 0.01% Accuracy: $\pm 3\%$ RH
9.	Temperature Measurement Range	- -40~80°C, Resolution: 0.01°C, Accuracy ± 0.3 °C
10.	Signal Output	- IP54
11.	Power supply	- -40~85°C
12.	Current Consumption	- Wall-mounted Installation and Tube installation
13.	Humidity Measurement Range	- 2M
14.	Temperature Measurement Range	- Aviation connector and Hook-up wire

50 ITEM NAME: Industrial EC & TDS Sensor MODBUS-RTU RS485 & 0-2V

Quantity: 20 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 10 Units
5.	Output Interface	- Analog Voltage 0-2V - (Output resistance ~0ohm) - RS485 - Modbus-RTU
6.	Power Supply	- 3.9-30V/DC
7.	Power Consumption (Idle)	- 40mA@24V DC

Sl.	Feature	Requirement of Procuring Entity
8.	Power Consumption (Max)	- 80mA@24V DC
9.	Start-up Time	- < 2 seconds
10.	EC Measurement	- Isolated Sensor Input, Range: 0 - 20000us/cm - Resolution: 0-10000us/cm, 10us/cm;10000-20000 us/cm, 20000us/cm, 50us/cm - Accuracy: 0-10000us/cm, ±3%; 10000-20000us/cm, ±5% - EC temperature compensation: 0-50°C
11.	Temperature Measurement	Range: -40~80°C, Resolution: 0.1°C, - Accuracy: ±0.5°C
12.	IP Ratings	Electrode : IP68 - Transmitter : IP65
13.	Operating Temperature	- -40 ~ +85°C
14.	Installation	Electrode : 1/2"NPT screw threads - Transmitter: Mounting hole
15.	Cable Length	Power and Signal Cable : 2 meters or Customize - Electrode Cable : 5 meters
16.	Dimension	Electrode : 1/2"NPT screw threads - Transmitter : 128*70*42mm

51 ITEM NAME: Industrial-grade MODBUS RS485 NH3 Sensor - with Waterproof Aviation Connector

Quantity: 20 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder

Sl.	Feature	Requirement of Procuring Entity
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 10 Units
5.	Product model	- S-NH3-01
6.	Supply Voltage	- 5 ~ 24V DC (recommended 5V power supply).
7.	Supported Protocol	- MODBUS-RTU RS485
8.	IP Rating	- IP65 (The equipment should be protected from direct sunlight and rain over long periods of time).
9.	Operating Temperature	- -40°C to 50°C (best operating temperature 20 to 35 °C).
10.	Operating Humidity	- 15 to 95% RH (non-condensation) (best operating humidity 50%RH).
11.	Ambient Pressure	- Atmospheric pressure $\pm 10\%$.
12.	Cable Length	- 2 meters
13.	Ammonia Range	- 0~100 ppm
14.	Temperature Range	- -40~50 °C
15.	Humidity Range	- 10~95 %RH
16.	Operating Current	- 6mA (Max, 5V DC) ; 3.2mA (typ.12V DC)

52 ITEM NAME: Liquid Level Sensor for Water Level, Oil Level and Mild-corrosive Liquid Level Monitoring

Quantity: 20 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 10 Units
5.	Measurement Range	- 0 ~ 5 meters
6.	Cable Length	- 5.3 meters
7.	Output Signal	- 0.5 ~ 4.5V

Sl.	Feature	Requirement of Procuring Entity
8.	Accuracy	- $\pm 0.25\%$ F.S
9.	Zero Temperature Drift	- $\pm 0.03\%$ F.S/ $^{\circ}$ C
10.	Sensitivity Temperature Drift	- $\pm 0.03\%$ F.S/ $^{\circ}$ C
11.	Long-term Stability	- $\leq 0.2\%$ F.S/year
12.	Response Time	- 5ms($\leq 90\%$ F.S)
13.	Measurement Liquid	- Slight corrosive liquid (water, edible oil, etc.)
14.	Power Supply	- 5V DC
15.	Overload Capacity	- 200%F.S
16.	Compensation Temperature	- -10° C ~ $+70^{\circ}$ C
17.	Medium Temperature	- -40° C ~ $+80^{\circ}$ C
18.	Storage Temperature	- -40° C ~ $+85^{\circ}$ C
19.	Material	304 stainless steel shell, 316L stainless steel core, - special rubber-insulated cable.
20.	IP Rating	- IP68
21.	Device Weight	- 670g
22.	Certifications	- CE, FCC, RoHS

53 ITEM NAME: reTerminal DM (with Camera & PoE) - Raspberry Pi CM4-powered 10.1" Integrated Device Master, Industrial Grade HMI/PLC/Panel PC/Gateway All-in-one, Node-RED Integrated

Quantity: 06 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 4 Units

Sl.	Feature	Requirement of Procuring Entity
5.	CPU	CM4 - Quad-core Cortex-A72@ 1.5GHz
6.	Memory	- 8GB
7.	Storage	32GB eMMC - M.2 NVMe SSD Slot 2280-M Key (optional)
8.	OS Support	Raspbian - SenseCraft Edge OS
9.	Display Size	- 10.1"
10.	Max. Resolution	- 1280 x 800
11.	Max. Colors	- 16.7M (8-bit)
12.	Luminance (nit)	- 400
13.	Viewing Angle (H/V°)	- 170/170
14.	Backlight Life (hrs)	- 30000
15.	Touch Type	- 10-point Capacitive
16.	Pencil Hardness	- 7H
17.	Video	- HDMI2.0
18.	Audio	Microphone x 2 Buzzer - 3.5mm Audio Jack
19.	Camera	Connector: CSI Chip type: Sony IMX219 Resolution for image: 3280x2464 Resolution for video: 1080p30, 720p60 and 640x480p90 - Size: 25mm x 23mm x 9mm
20.	Ethernet	1 x 10/100/1000 Mbps - 2 x 10/100/1000 Mbps (optional)
21.	USB	2 x USB-A 2.0 Host - 2 x USB 3.0 (optional)
22.	RS485	1 x RS-485 > Terminal Block

Sl.	Feature	Requirement of Procuring Entity
		- 1 xRS-485 > DB9 (optional)
23.	RS232	1 x RS-232 > Terminal Block - 1 xRS-232 > DB9 (optional)
24.	CAN	- 1 x CAN-BUS > Terminal Block
25.	DI	- 4x DI > Terminal Block
26.	DO	- 4x DO > Terminal Block
27.	40pin GPIO	- Inside
28.	Wifi	- On-chip WiFi
29.	BLE	- On-chip BLE
30.	LoRa	- Mini-PCIE for LoRaWAN (optional)
31.	Cellular	- Mini-PCIE for 4G (optional)
32.	Input	- 2-pin Terminal Block
33.	PoE	- 12.95W PoE
34.	Power Range	- 12~24V DC
35.	Power Consumption	6W Typ. - 9W Max.
36.	Power Switch	- NO
37.	Reboot Switch	- YES
38.	Ingress Protection	- IP65 Front Panel
39.	Operating Temperature	- -10~50 °C
40.	Storage Temperature	- -20~70 °C
41.	Humidity (Operating)	- 10~95% RH
42.	Dimension (W x H x D)	- 259.4 x 191 x 42.2 mm
43.	Enclosure	- Die-cast Aluminum Alloy
44.	Mounting	- Panel, VESA, Din-Rail
45.	Weight (Net)	- 1.8Kg
46.	Certification	- CE, FCC, UCKA, RoHS, Telec, REACH

Sl.	Feature	Requirement of Procuring Entity
47.	RTC	- High Accuracy RTC
48.	Hardware WatchDog	- 1~255s
49.	Security	- ATECC608A
50.	Warranty	- 2 Years
51.	Heat dissipation	- Fanless

54 ITEM NAME: SenseCAP Indicator D1, 4-Inch Touch Screen IoT development platform powered by ESP32S3 & RP2040

Quantity: 20 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 20 Units
5.	Screen	- 3.95 Inch, Capacitive RGB Touch Screen
6.	Screen Resolution	- 480 x 480 pixels
7.	Power Supply	- 5V DC, 1A
8.	Battery	- N/A
9.	Processor	ESP32-S3: Xtensa® dual-core 32-bit LX7 microprocessor, up to 240MHz - RP2040: Dual ARM Cortex-M0+ up to 133MHz
10.	Flash	ESP32S3: 8MB - RP2040: 2MB
11.	External Storage	- Support up to 32GB Micro SD Card (not included)
12.	Wi-Fi	- 802.11b/g/n, 2.4GHz
13.	Bluetooth	- Bluetooth 5.0 LE
14.	LoRa®(SX1262)	- LoRa®WAN/(G)FSK, 21dBm Max Transmitted Power Sensitivity/-136dBm@SF12 BW=125KHz RX

Sl.	Feature	Requirement of Procuring Entity
		Sensitivity, Up to 5km (depending on gateway antenna and environments)
15.	Sensors	<ul style="list-style-type: none"> - Built-in CO2 (SCD41), Range: 0-40000ppm, Accuracy: 400ppm - 5000ppm \pm(50ppm+5% of reading) - Built-in TVOC (SGP40), Range: 1-500 VOC Index Points - External Temperature and Humidity Sensor, Range: -40 ~ + 85 °C/\pm 0.3 °C; 0 ~ 100% RH/\pm 2% RH (25 °C)
16.	Buzzer	<ul style="list-style-type: none"> - MLT-8530, Resonant Frequency : 2700Hz

55 ITEM NAME: Re Speaker USB Mic Array

Quantity: 10 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	<ul style="list-style-type: none"> - 5 Units
5.	Basic features	<ul style="list-style-type: none"> - XVF-3000 from XMOS - 4 High Performance Digital Microphones - Supports Far-field Voice Capture - Speech Algorithms On-Chip - 12 Programmable RGB LED Indicators - Microphones: MEMS MSM261D4030H1CPM - Sensitivity: -26 dBFS (Omnidirectional) - Acoustic Overload Point: 120 dBSPL - SNR: 63 dB - Power Supply: 5V DC from Micro USB or Expansion Header - Dimensions: 77mm (Diameter) - 3.5mm Audio Jack Output Socket
6.	Dimensions	<ul style="list-style-type: none"> - 77mm (Diameter)
7.	Weight (N.W.)	<ul style="list-style-type: none"> - 43.6g
8.	Weight (G.W.)	<ul style="list-style-type: none"> - 104.2g

Sl.	Feature	Requirement of Procuring Entity
9.	Battery	- Exclude
10.	ReSpeaker USB Mic Array	- 1
11.	USB Type A to Micro USB cable	- 1
12.	Instruction Card	- 1

56 ITEM NAME: reServer i51135- Compact Edge Server powered by 11th Gen Intel® Core™ i5 1135G7

Quantity: 04 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 2 Units
5.	Processor	- Intel® Core™ 11th Gen. i5 1135G7
6.	Cores/Threads	- 4C/8T
7.	Frequency	- Up to 4.20 GHz
8.	Co-processor	- Microchip® ATSAM21G18 32-Bit ARM® Cortex-M0+ @ 48MHz
9.	Memory	- Dual Channels DDR4-3200 , 32GB
10.	Graphics	- Intel® Iris Xe Graphics G7 80EUs(400-1300MHz)
11.	WiFi	- M.2 E-Key(PCIE & CNVi Support), Intel® Wi-Fi 6 AX201(Optional)
12.	Bluetooth	- Bluetooth 5.0, BLE(Optional)
13.	LCD	- eDP 40-Pin 4 Lane Connector
14.	HDMI	- 1 x HDMI 2.0b, up to 4Kx2Kx24bpp@60Hz
15.	DP	- 1 x DP1.4a 7680x4320x24bpp@60Hz
16.	Multiple Display	- 4 simultaneous displays with each display interface combination

Sl.	Feature	Requirement of Procuring Entity
17.	Power Supply	- 1x5.5x2.5mm DC Jack / Wafer 2.0mm 8pin
18.	Micro Sim Card Slot	- 1
19.	SATA	- 2 x SATA Gen III 6.0 Gb/s Data Connectors + 3 x SATA Power Connectors
20.	GPIO	- 28-Pin Arduino Co-processor 2.54mm header
21.	Audio	- Realtek High Definition Audio, Microphone + headphone Combo Connector
22.	USB2.0	- USB2.0 9-pin Header x2 480Mbps
23.	Fan	- 2 x 12V 4-wire Fan header, PWM Control
24.	Front Panel Control	- Power-on, Reset, Power Status LED, SATA Status LED
25.	S/PDIF	- 3-Pin 2.54mm Header
26.	SATA Power	- WAFER4-Pin 2.0 pitch Connector
27.	Co-CPU. Debug Port	- 6-Pin 0.5mm FPC Connector (SWD)
28.	M.2 M-Key	- 1 x M-Key 2242/2280(PCIe 3.0 x4)
29.	M.2 E-Key	- 1 x E-Key 2230(PCIe 3.0 x1; USB2.0 x1; Intel CNVi)
30.	M.2 B-Key	- 1 x B-Key 2242/2252/2280(PCIe 3.0 x2; USB2.0 x1)
31.	High Speed I/O	- 1 X PCIe x4 Gen4
32.	Supply Voltage	- DC Jack: 12V
33.	RTC Battery	- Lithium 3V/210mAH
34.	EMC	- CE,FCC,TELEC
35.	Dimension	- 124mm*132mm*233mm
36.	Thermal Solution	- Heat Pipe Assemblies/Heat Spreading Vapor Chamber Assemblies
37.	Weight	- 1800g
38.	Part List	- 1 x reServer - 1 x User Manual - 1 x Screwdriver - 1 x Fan Cable - 2 x 2.4/5GHz Wi-Fi Antenna

Sl.	Feature	Requirement of Procuring Entity
		- 1 x 60W AC-DC Power Adapter

57 ITEM NAME: ESP32-S2-DevKitM-1

Quantity: 100 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 50 Units
5.	Product:	- Development Kits
6.	Tool Is For Evaluation Of:	- ESP32-S2F
7.	Protocol Supported:	- 802.11 b/g/n
8.	Frequency:	- 2.4 GHz
9.	Protocol - WiFi - 802.11:	- WiFi
10.	Interface Type:	- I2C, I2S, SPI, UART
11.	Product Type:	- WiFi Development Tools

58 ITEM NAME: ESP32-S2-KALUGA-1

Quantity: 50 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Solution Type	IoT equipment
4.	Quantity	- 20 Units
5.	Product:	- Development Kits
6.	Tool Is For Evaluation Of:	- ESP32-S2-WROVER
7.	Frequency:	- 2.4 GHz

Sl.	Feature	Requirement of Procuring Entity
8.	Interface Type:	- ADC, SPI, UART, USB
9.	Product Type:	- WiFi Development Tools
10.	LCD touch screen display	- Yes

59 ITEM NAME: T1000-A LoRaWAN Tracker for Indoor and Outdoor Positioning
Quantity: 30 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Backhaul	LoRaWAN® (v1.0.4 Class A)
4.	Bluetooth	- Bluetooth v5.1, settings via App
5.	LoRaWAN Channel Plan	- IN865/EU868/US915/AU915/AS923/KR920/RU864
6.	Temperature	- Range: -20 to 60°C Accuracy: ± 1°C Resolution: 0.1°C
7.	Light	- 0 to 100% (0 is dark, 100% is brightest)
8.	3-Axis Accelerometer	- 3-Axis Accelerometer to detect movement
9.	LED and Buzzer	- 1x LED and 1x buzzer to indicate status
10.	Button	- 1x Button to operate and trigger events (SOS)
11.	Antenna	- Internal (GNSS/LoRa/Wi-Fi/BLE)
12.	Communication Distance	- 2 to 8 km (depending on gateway antenna, installation, and environments)
13.	IP Rating	- IP65
14.	Dimensions	- 85 x 55 x 6.5 mm
15.	Device Weight	- 32g
16.	Operating Temperature	- -20°C to +60°C
17.	Operating Humidity	- 5% - 95% (No condensation)
18.	Certification	- CE / FCC / TELEC / RoHS / REACH

Sl.	Feature	Requirement of Procuring Entity
19.	Location	-
20.	GNSS Constellation	- T1000-A/B: GPS/GLONASS/Galileo/BeiDou/QZSS T1000-C/D: GPS/BeiDou
21.	GNSS Sensitivity	- -145dBm cold start / -160 dBm Tracking
22.	GNSS Location Accuracy	- ~1m CEP, GPS, -130dBm
23.	Wi-Fi Positioning	- Passive scanning uploads the scanned 4 MAC addresses
24.	Bluetooth Positioning	- Uploads the scanned 3 best signal MAC addresses of Beacon
25.	Battery	-
26.	Battery Capacity	- Rechargeable lithium battery, 700mAh
27.	Battery Life Estimates	- 4 months on a single charge (uplink every 1 hour, only GNSS data)
28.	Battery Life Monitoring	- Periodic uplink battery level
29.	Charge Cable (Adapter not included)	- USB magnetic charging cable, 1 meter
30.	Power Input Voltage	- 4.7 to 5.5V DC
31.	Charging Temperature	- 0 to 45°C

60 ITEM NAME: E5 Location Beacon for T1000 Tracker

Quantity: 30 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Chip	- nRF52 series
4.	Bluetooth protocol	- BLE 5.0
5.	Broadcasting range	- 120m
6.	Tx Power	- -30~+4dBm, default is 0dBm
7.	Adv Interval	- 100ms~10s, default is 500ms
8.	Battery	- Lithium battery, 2400mAh

Sl.	Feature	Requirement of Procuring Entity
9.	Working temperature	- -30~60°C
10.	Dimension(L*W*H)	- Φ50*20.5mm

61 ITEM NAME: Creator Kit -Y/ 40 Grove functional modules in one box

Quantity: 30 Set

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Application	Smart Garden Smart Cup Enhanced project develop Electronics Learning Electronics knowledge educating
4.	Part list	Green LED x1 Chainable RGB Led V2.0 x1 Multi Color Flash LED (5mm) x1 Red LED x1 Blue LED x1 Grove LED Bar v2.0 x1 RGB LED Stick (10 - WS2813 Mini) x1 Temperature Sensor x1 Water Sensor x1 Sound Sensor x1 Light Sensor v1.2 x1 Line Finder v1.1 x1 Vibration Sensor (SW-420) x1 Temperature & Humidity Sensor (DHT11) x1 Moisture Sensor x1 Mini PIR Motion Sensor x1 Loudness Sensor x1 Ultrasonic Ranger x1 Hall Sensor x1 Flame Sensor x1 Touch Sensor x1 3-Axis Digital Accelerometer(±1.5g) x1 Universal 4 Pin 20cm Unbuckled Cable x15 Branch Cable 20cm x2 4 pin Male Jumper to Grove 4 pin Conversion Cable 20cm x5 4 pin Female Jumper to Grove 4 pin Conversion Cable 20cm x3

62 ITEM NAME: Kit for Win10 IoT Core & Azure Platform

Quantity: 30 Set

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Weight	- G.W 286g
4.		Pi+ 1 Temp & Humi Sensor 1 PIR Motion Sensor 1 Sound Sensor 1 Light Sensor v1.2 1 Gas Sensor (MQ2) 1 Button 1 Relay 1 OLED Display 0.96" 1 4 Digit Display 1 Mini I2C Motor Driver v1.0 1 DC Motor 1 Mini Fan 1

63 ITEM NAME: D3 Kit - A Comprehensive Kit for Education

Quantity: 30 Set

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Parts list	DFRduino Mega 2560 (DFR0191) x1 Mega IO Expansion Shield V2.3 (DFR0165) x1 I2C LCD1602(Arduino Compatible) (DFR0063) x1 Relay Module V2 (DFR0017) x1 LM35 Analog Linear Temperature Sensor (DFR0023) x1 Analog Ambient Light Sensor (DFR0026) x1 Digital Vibration Sensor (DFR0027) x1 Digital Tilt Sensor (DFR0028) x1 Digital Push Button (DFR0029) x1 Capacitive Touch Sensor (DFR0030) x1 Digital piranha LED light module-White(DFR0031-W) x1 Digital piranha LED light module-RED(DFR0031-R) x1 Digital piranha LED light module-BLUE(DFR0031-B) x1 Digital Buzzer Module (DFR0032) x1 Digital magnetic sensor (DFR0033) x1 Analog Sound Sensor (DFR0034) x1 Analog Rotation Sensor V2(DFR0058) x1 Joystick Module (DFR0061) x1

Sl.	Feature	Requirement of Procuring Entity
		Flame sensor (DFR0076) x1 DIGITAL IR Transmitter Module(Arduino Compatible) (DFR0095) x1 Light Disc with 7 SMD RGB LED(DFR0106) x1 IR Kit For Arduino(DFR0107) x1 DFRduino Ethernet Shield (Support Mega and Micro SD)(DFR0125) x1 Triple Axis Accelerometer MMA7361 (DFR0143) x1 URM37 V3.2 Ultrasonic Sensor(SEN0001) x1 Digital Infrared motion sensor (SEN0018) x1 Adjustable Infrared Sensor Switch(SEN0019) x1 Analog Gas Sensor(MQ5)(SEN0130) x1 9g micro servo (1.6kg)(SER0006) x1 Micro DC Geared Motor with Back Shaft(FIT0016) x2 USB Cable A-B for Arduino(FIT0056) x1 2A Motor Shield For Arduino (DRI0009) x1 Water Sensor (SEN0121) x1 Soil Moisture Sensor (SEN0114) x1 LSM303 Breakout Board (SEN0079) x1

64 ITEM NAME: Orion Nano Developer Kit

Quantity: 30 Set

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Parts list	Jetson Orin™ Nano Developer Kit -- x1 19V Power Supply (45W) -- x1 Type B (US, JP, CA, PH) Power Cable -- x1 Type I (CN) Power Cable -- x1 UPC Label -- x1 Quick Start and Support Guide -- x1

65 ITEM NAME: reComputer J4011-Edge AI Device with NVIDIA Jetson Orin™ NX 8GB module, 4xUSB 3.2, M.2 Key E & Key M Slot, Aluminum case, Pre-installed JetPack System with NVIDIA JetPack™ on 128GB NVMe SSD

Quantity: 30 Set

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Module	- Jetson Orin NX 8GB

Sl.	Feature	Requirement of Procuring Entity
4.	AI Performance	- 70 TOPS
5.	GPU	- 1024-core NVIDIA Ampere architecture GPU with 32 Tensor Cores
6.	GPU Max Frequency	- 765 MHz
7.	CPU	- 6-core Arm® Cortex®-A78AE v8.2 64-bit CPU 1.5MB L2 + 4MB L3
8.	CPU Max Frequency	- 2 GHz
9.	Memory	- 8GB 128-bit LPDDR5 102.4GB/s
10.	DL Accelerator	- 1x NVDLA v2
11.	DLA Max Frequency	- 614 MHz
12.	Vision Accelerator	- 1x PVA v2
13.	Storage	- (Supports external NVMe)
14.	Video Encoder	1x 4K60 (H.265) 3x 4K30 (H.265) - 6x 1080p60 (H.265) 12x 1080p30 (H.265)
15.	Video Decoder	1x 8K30 (H.265) 2x 4K60 (H.265) 4x 4K30 (H.265) - 9x 1080p60 (H.265) 18x 1080p30 (H.265)
16.	Display	- 1* HDMI 2.1
17.	CSI Camera	- 2* CSI (2-lane 15pin)
18.	Networking	- 1* Gigabit Ethernet (10/100/1000M)
19.	USB	- 4* USB 3.2 Type-A (10Gbps); 1* USB2.0 Type-C (Device Mode)
20.	M.2 Key M	- 1* M.2 Key M
21.	M.2 Key E	- 1* M.2 Key E
22.	Fan	- 1* 4 pin Fan Connector(5V PWM)
23.	CAN	- 1* CAN
24.	Multifunctional Port	- 1* 40-Pin Expansion header, 1* 12-Pin Control and UART header
25.	RTC	- RTC 2-pin, RTC socket (supports CR1220 but not included)

Sl.	Feature	Requirement of Procuring Entity
26.	Power	- 9-19V
27.	Power Supply	- DC 12V/5A(Barrel Jack 5.5/2.5mm)
28.	Temperature	- -10°C~60°C
29.	Mechanical	- 130mm x120mm x 58.5mm

66 ITEM NAME: Raspberry Pi 4B - Desktop Kit - 4GB

Quantity: 30 Set

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Parts list	Raspberry Pi 4 Computer Model B 4GB -- x1 Wall Adapter Power Supply - 5VDC 3A Type-C -- x1 Micro SD Card with Card Reader-32GB -- x1 ABS H-Type Black Case for Raspberry Pi 4 B -- x1 Micro HDMI to Standard HDMI Male Cable - -- x1M -- x1 Cat6 Ethernet Cable - -- x1 Meter -- x1 Mini Wireless Keyboard and Touchpad Mouse -- x1

67 ITEM NAME: M2M2 - 360° Laser Mapping Sensor (40m)

Quantity: 10 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Applications	Commercial robot Outdoor robot Environment surveying Handheld mapping
4.	Measuring Range	- 0.1m - 40m
5.	Sampling Frequency	- 9.2K
6.	Rotational Speed	- 8Hz-15Hz
7.	Angular Resolution	- 0.391°
8.	Motor	- Brushless
9.	Dimensions	- 77.1 x 57 x 74.9mm
10.	Weight	- 165g

Sl.	Feature	Requirement of Procuring Entity
11.	System Voltage	- 5V
12.	System Current	- 750mA - 1300mA
13.	Power Consumption	3.75W-6.5W
14.	Output	Ethernet: (802.3/802.3u) WiFi(802.11a/b/g/n/ac)
15.	Temperature Range	-5°C-45°C
16.	Angular Range	360°
17.	Range Resolution	3cm
18.	Accuracy	≤5cm
19.	Maximum Moving Speed	2m/s
20.	Frequency Of Data Refresh	10Hz
21.	Maximum Area	300m x 300m
22.	Mapping resolution	0.05m
23.	Accuracy	< 0.02m
24.	Graph Optimizing Working Time	About 1 hr
25.	Maximum Inclination Angle	±3°

68 ITEM NAME: 10 I/Os PLC Module - CPU ESP32 (Optoisolated Output)

Quantity: 10 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	FEATURES	<ul style="list-style-type: none"> - With 10 I/O interfaces - Standardized connectors - Supports RS485
4.	APPLICATIONS	<ul style="list-style-type: none"> - Control and automation of machines - Control of AC and DC motors
5.	MCU	- ESP32 devkit
6.	Power Input	- 12-24V DC
7.	Input Rated Voltage	- 24V DC
8.	Rated Power	- 30W

Sl.	Feature	Requirement of Procuring Entity
9.	Max Current	- 1.5
10.	Clock Speed	- External 240 MHz; Internal 8MHz
11.	Flash	- 4MB
12.	SRAM	- 4MB
13.	PSRAM	2MB
14.	Communication	USB-RS485-ETH-WiFi-BLE
15.	Operating Voltage Range	11.4~25.4V DC
16.	Power Consumption	30V AC MAX
17.	Digital Input	0-3.3-24V DC(10Hz)
18.	Digital Isolated Output	5-24V DC
19.	Operating Temperature	0°C~60°C
20.	Operating Humidity	10%~90%
21.	Storage Temperature	-20°C~60°C
22.	Ethernet Port	yes
23.	RS485	yes
24.	TCP IP	yes
25.	Modbus TCP	yes
26.	Modbus RTU	yes

69 ITEM NAME: 4-20SC-MaxSonar-WRMI MB7789 Ultrasonic Distance Sensor

Quantity: 10 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Resolution	- Resolution of ~1.6mm
4.	Sensor Type	- 42kHz ultrasonic sensor
5.	Model	- MB7789
6.	Compliance	- RoHS and CE compliant
7.	Operating Voltage	- 10V~32V
8.	Operating Current	- 40mA

Sl.	Feature	Requirement of Procuring Entity
9.	Range Information	- 50cm~500cm/19.69”~196.85” (objects closer than 50cm are typically reported as 50cm)
10.	Read Rate	- 0.6Hz
11.	Output	- Analog current output of 4-20mA
12.	Operating Temperature	- -40°C to +65°C (-40°F to +149°F)
13.	Resolution	Resolution of ~1.6mm

70 ITEM NAME: A DIY Water Monitoring Basic Kit

Quantity: 10 Set

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Features	<ul style="list-style-type: none"> - pH, EC auto record - Micro-SD Local storage - Extensible design - plug and play - Bluetooth built-in
4.	Bluno Microcontroller	<ul style="list-style-type: none"> - On-board BLE chip: TI CC2540 Wireless Programming via BLE Support AT command to config the BLE Transparent communication through Serial Upgrade BLE firmware easily DC Supply: USB Powered or External 7V~12V DC Microcontroller: Atmega328p Bootloader: Arduino Uno (disconnect any BLE device before uploading a new sketch) Compatible with the Arduino Uno pin mapping Size: 60mm * 53mm (2.36"*2.08") Weight: 30g
5.	pH sensor	<ul style="list-style-type: none"> - Module Power: 5.00V Module Size: 43 x 32mm (1.69x1.26") Measuring Range:0 - 14PH Accuracy: ± 0.1pH (25 °C) Response Time: ≤ 1min pH Sensor with BNC Connector

Sl.	Feature	Requirement of Procuring Entity
		pH2.0 Interface (3 foot patch) Gain Adjustment Potentiometer Power Indicator LED
6.	EC sensor	<ul style="list-style-type: none"> - Operating Voltage: +5.00 V PCB Size: 45 × 32mm(1.77x1.26") Measuring Range: 1ms/cm -- 20ms/cm Operating Temperature: 5 - 40 °C Accuracy: ±10% F.S (using Arduino 10 bits ADC) PH2.0 Interface (3-pin SMD) Conductivity Electrode (Electrode Constant K = 1,BNC connector) Cable Length of the Electrode: about 60cm(23.62") Power Indicator Analog Signal Isolator Operating Voltage: 5.0V Response Time: 4 seconds (Typ) Analog Error (both ends): ± 20mV (Typ) Interface Type: PH2.0-3P No load Current: 75mA Dimension: 42 * 32mm / 1.65 * 1.26 inch Non-isolated Terminal (Arduino Side) Supply Voltage: 5.0 ± 0.1V Analog Output: 0 ~ 5.0V Isolated Terminal (Sensor Side) Output Voltage: 5.0 ± 0.2V Analog Input: 0 ~ 5.0V

71 ITEM NAME: Weather Station Kit with Anemometer/Wind Vane/Rain Bucket

Quantity: 10 Set

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Application	<ul style="list-style-type: none"> - Weather Station - Weather Monitoring
4.	Operating voltage	- 5V

Sl.	Feature	Requirement of Procuring Entity
5.	Temperature range	- -40~80°C
6.	Humidity range	- 0~99%
7.	Package Dimension	- 20*18*30 CM (7.87*7.09*11.81")
8.	Weight	- 4480g

72 ITEM NAME: Science Data Acquisition Module Kit for Experiments Education
Quantity: 10 Set

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Parts list	Gravity: Science Data Acquisition (SCI DAQ) Module x1 Gravity: Analog Soil Moisture Sensor for Arduino x1 Gravity: I2C VEML7700 Ambient Light Sensor (0~120Klx) x1 Gravity: SHT31-F Digital Temperature and Humidity Sensor x1 Gravity: ENS160 Air Quality Sensor x1 3×AA Battery Holder(PH2.0-2P) x1 Type-C&Micro 2-in-1 USB Cable x1 RTC Battery CR1220 x1 Double-headed PH2.0-4P Cable 20cm x4 Double-headed PH2.0-3P Cable 20cm x2 Gravity-4P I2C/UART Sensor Cable x1 Packing Box x1

73 ITEM NAME: Mass Air Flow Sensor
Quantity: 25 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Application	- Intensive care ventilator - Portable ventilator - Industrial process control - Environmental protection - Air purifier

Sl.	Feature	Requirement of Procuring Entity
4.	Measuring Range	- 150SLM (SLM: standard liter per minute. Standard-state: 20°C gas temperature and 101.325 kPa gas pressure)
5.	Power Supply	- 5V
6.	Operating Current	- 25mA
7.	Accuracy	- <4%FS
8.	Response Time	- 50ms
9.	Operating Temperature Range	- -25°C~65°C
10	Working Pressure	- <100kPa

74 ITEM NAME: Factory Calibrated Electrochemical Oxygen / O2 Sensor (0-25% Vol, I2C & UART)

Quantity: 25 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Application	- Air quality monitoring device - Mining air detection - Environmental protection - Smart Farming
4.	Detection Gas	- Oxygen (O2)
5.	Detection range	- 0~25% Vol
6.	Working Voltage	- 3.3~5.5V DC
7.	Working Current	- <5mA
8.	Output Signal	- I2C, UART (0~3V), analog voltage
9.	Working Temperature	- -20~50°C
10.	Working Humidity	- 15~90%RH (non-condensing)
11.	Storage Temperature	- -20~50°C

Sl.	Feature	Requirement of Procuring Entity
12.	Storage Humidity	- 15~90%RH (non-condensing)
13.	Lifespan	>2 years (in the air)
14.	Adapter Plate Size	37*32mm
15.	Compatibility	Arduino, ESP32, Raspberry pi

75 ITEM NAME: BLE Sensor Beacon Pack (5 PCS)

Quantity: 25 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.		<ul style="list-style-type: none"> - IoT Application - Smart farms - Smart offices - Smart factories - Smart warehouses
4.	Operating Voltage	- 3.3-5.5V DC
5.	Operating Current	- <2mA @Eddystone TLM
6.	Supported sensors	- 3.3V digital/analog sensors
7.	Input Signal	- digital/analog signals
8.	Operating Frequency Range	- 2.4GHz ISM
9.	Modulation	- GFSK
10.	Transmitting Power	- +5.0dBm
11.	PCB Size	- 27mm×33.5mm/1.06×1.32inch
12.	Mounting Hole Size	- inner diameter of 3.1mm/outer diameter of 6mm
13.	Operating Voltage	3.3-5.5V DC

76 ITEM NAME: Liquid Flow Sensor (G1/4)

Quantity: 25 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Operating Voltage	- DC3.5-24V
4.	Operating Current	- $\leq 10\text{mA}$ (DC5V)
5.	Output	- NPN Pulse signal
6.	Pipe Diameter	- G1/4
7.	Thread Outer Diameter	- 13mm
8.	Thread Length	- 10mm
9.	Water Pressure Resistance	- $\leq 1.0\text{MPA}$
10.	Insulation Resistance	- $> 100\text{M}\Omega$
11.	Error	- $\pm 1\%$ (0.3-5L/min)
12.	Output Pulse High Level	- $> \text{DC}4.7\text{V}$ (Input voltage DC5V)
13.	Output Pulse Low Level	$< \text{DC}0.5\text{V}$ (Input voltage DC5V)
14.	Output Pulse Duty Ratio	$50\% \pm 10\%$
15.	Flow-Pulse Correlation	1L=540 pulses
16.	Operating Temperature Range	$-10^{\circ} \sim 70^{\circ}\text{C}$
17.	Operating Humidity Range	35%~90%RH(No condensing)
18.	Storage Temperature	$-25^{\circ} \sim +80^{\circ}\text{C}$
19.	Storage Humidity	25%~95%RH
20.	Dimension	80*47*30mm/3.15*1.85*1.18"

77 ITEM NAME: Analog Dissolved Oxygen Sensor / Meter Kit for Arduino

Quantity: 25 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Detection Range	- 0~20mg/L
4.	Response Time	- Up to 98% full response, within 90 seconds (25°C)

Sl.	Feature	Requirement of Procuring Entity
5.	Pressure Range	- 0~50PSI
6.	Electrode Service Life	- 1 year (normal use)
7.	Maintenance Period	- Membrane Cap Replacement Period: 1~2 months (in muddy water); 4~5 months (in clean water) Filling Solution Replacement Period: Once every month
8.	Cable Length	- 2 meters
9.	Probe Connector	- BNC
10.	Operating Voltage	- 3.3~5.5V
11.	Output Signal	- 0~3.0V
12.	Cable Connector	- BNC
13.	Signal Connector	Gravity Analog Interface (PH2.0-3P)
14.	Dimension	42mm * 32mm

78 ITEM NAME: Analog Turbidity Sensor for Arduino

Quantity: 25 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Operating Voltage	- 5V DC
4.	Operating Current	- 40mA (MAX)
5.	Response Time	- <500ms
6.	Insulation Resistance	- 100M (Min)
7.	Output Method	- Analog
8.	Analog output	- 0-4.5V
9.	Digital Output	- High/Low level signal (adjustable threshold)
10.	Operating Temperature	- 5°C~90 °C
11.	Storage Temperature	- -10°C~90°C
12.	Weight	- 30g
13.	Adapter Dimensions	38mm*28mm*10mm/1.5inches*1.1inches*0.4inches

Sl.	Feature	Requirement of Procuring Entity
14.	Operating Voltage	5V DC

79 ITEM NAME: Arduino UNO R3 Original Development Board ATmega328P CH340

Quantity: 200 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder
2.	Country of Origin	To be mentioned by the bidder
3.	Microcontroller	- ATmega328P
4.	Operating Voltage	- 5V
5.	Input Voltage (recommended)	- 7-12V
6.	Input Voltage (limit)	- 6-20V
7.	Digital I/O Pins	- 14 (of which 6 provide PWM output)
8.	PWM Digital I/O Pins	- 6
9.	Analog Input Pins	- 6
10.	DC Current per I/O Pin	- 20 mA
11.	DC Current for 3.3V Pin	- 50 mA
12.	Flash Memory	- 32 KB (ATmega328P) of which 0.5 KB used by bootloader
13.	SRAM	2 KB (ATmega328P)
14.	EEPROM	1 KB (ATmega328P)
15.	Clock Speed	16 MHz
16.	LED_BUILTIN	13
17.	Length	68.6 mm
18.	Width	53.4 mm
19.	Weight	25 g

80 ITEM NAME: Arduino MEGA2560 R3 Development Board

Quantity: 200 Nos

Sl.	Feature	Requirement of Procuring Entity
1.	Brand	To be mentioned by the bidder

Sl.	Feature	Requirement of Procuring Entity
2.	Country of Origin	To be mentioned by the bidder
3.	Microcontroller	- ATmega2560
4.	Operating Voltage	- 5V
5.	Input Voltage (recommended)	- 7-12V
6.	Input Voltage (limit)	- 6-20V
7.	Digital I/O Pins	- 54 (of which 15 provide PWM output)
8.	Analog Input Pins	- 16
9.	DC Current per I/O Pin	- 20 mA
10.	DC Current for 3.3V Pin	- 50 mA
11.	Flash Memory	- 256 KB of which 8 KB used by bootloader
12.	SRAM	- 8 KB
13.	EEPROM	4 KB
14.	Clock Speed	16 MHz
15.	LED_BUILTIN	13
16.	Length	101.52 mm
17.	Width	53.3 mm
18.	Weight	37 g

4. Drawings

Not Applicable.

This bidding document includes *[insert “the following” or “no”]* drawings.

[If documents shall be included, insert the following List of Drawings]

List of Drawings		
Drawing Nr.	Drawing Name	Purpose

Unofficial Copy

5. Inspections and Tests

The inspection and test, each item indicated in the Schedule of requirement, shall be performed to check whether the supplied item(s) are in conformity with the contract provisions and conform to the required technical specifications stipulated in the contract.

If the items fail to meet the laid down specifications the supplier shall take immediate steps to remedy the deficiency or replace the defective parts of each to the satisfaction of the purchaser/consignee.

The Purchaser's right to inspect, test and where appropriate reject the Goods after delivery, shall in no way be limited or waived by the reason of Goods having previously been inspected, tested or passed by the Purchaser or its representative prior the Goods shipment. The Inspections and tests shall be conducted at:

Enhancing Digital Government and Economy (EDGE) Project

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PART 3 – Contract

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Section VIII - General Conditions of Contract

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Section VIII. General Conditions of Contract

1. Definitions

1.1 The following words and expressions shall have the meanings hereby assigned to them:

- (a) “Bank” means the World Bank and refers to the International Bank for Reconstruction and Development (IBRD) or the International Development Association (IDA).
- (b) “Contract” means the Contract Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein.
- (c) “Contract Documents” means the documents listed in the Contract Agreement, including any amendments thereto.
- (d) “Contract Price” means the price payable to the Supplier as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions therefrom, as may be made pursuant to the Contract.
- (e) “Day” means calendar day.
- (f) “Completion” means the fulfillment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Contract.
- (g) “GCC” means the General Conditions of Contract.
- (h) “Goods” means all of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Purchaser under the Contract.
- (i) “Purchaser’s Country” is the country specified **in the Special Conditions of Contract (SCC)**.
- (j) “Purchaser” means the entity purchasing the Goods and Related Services, as **specified in the SCC**.
- (k) “Related Services” means the services incidental to the supply of the goods, such as insurance, installation, training and initial maintenance and other such obligations of the Supplier under the Contract.
- (l) “SCC” means the Special Conditions of Contract.
- (m) “Subcontractor” means any person, private or government entity, or a combination of the above, to whom any part of the Goods to be supplied or execution of any part of the Related Services is subcontracted by the Supplier.
- (n) “Supplier” means the person, private or government entity, or a combination of the above, whose Bid to perform the Contract has been accepted by the Purchaser and is named as such in the Contract Agreement.
- (o) “The Project Site,” where applicable, means the place **named in the SCC**.

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2. **Contract Documents**
- 2.1 Subject to the order of precedence set forth in the Contract Agreement, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory. The Contract Agreement shall be read as a whole.
3. **Fraud and Corruption**
- 3.1 The Bank requires compliance with the Bank's Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework, as set forth in Appendix 1 to the GCC.
- 3.2 The Purchaser requires the Supplier to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the Bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.
4. **Interpretation**
- 4.1 If the context so requires it, singular means plural and vice versa.
- 4.2 Incoterms
- (a) Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of parties thereunder shall be as prescribed by Incoterms **specified in the SCC**.
- (b) The terms EXW, CIP, FCA, CFR and other similar terms, when used, shall be governed by the rules prescribed in the current edition of Incoterms **specified in the SCC** and published by the International Chamber of Commerce in Paris, France.
- 4.3 Entire Agreement
- The Contract constitutes the entire agreement between the Purchaser and the Supplier and supersedes all communications, negotiations and agreements (whether written or oral) of the parties with respect thereto made prior to the date of Contract.
- 4.4 Amendment
- No amendment or other variation of the Contract shall be valid unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party thereto.
- 4.5 Nonwaiver

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- (a) Subject to GCC Sub-Clause 4.5(b) below, no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, neither shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.
- (b) Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, dated, and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.
- 4.6 Severability
- If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.
- 5. Language**
- 5.1 The Contract as well as all correspondence and documents relating to the Contract exchanged by the Supplier and the Purchaser, shall be written in the language specified in the **SCC**. Supporting documents and printed literature that are part of the Contract may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified, in which case, for purposes of interpretation of the Contract, this translation shall govern.
- 5.2 The Supplier shall bear all costs of translation to the governing language and all risks of the accuracy of such translation, for documents provided by the Supplier.
- 6. Joint Venture, Consortium or Association**
- 6.1 If the Supplier is a joint venture, consortium, or association, all of the parties shall be jointly and severally liable to the Purchaser for the fulfillment of the provisions of the Contract and shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the Purchaser.
- 7. Eligibility**
- 7.1 The Supplier and its Subcontractors shall have the nationality of an eligible country. A Supplier or Subcontractor shall be deemed to have the nationality of a country if it is a citizen or constituted, incorporated, or registered, and operates in conformity with the provisions of the laws of that country.
- 7.2 All Goods and Related Services to be supplied under the Contract and financed by the Bank shall have their origin in Eligible Countries. For the purpose of this Clause, origin means the country where the goods have been grown, mined, cultivated, produced, manufactured, or processed; or through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its components.

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- 8. Notices**
- 8.1 Any notice given by one party to the other pursuant to the Contract shall be in writing to the address **specified in the SCC**. The term “in writing” means communicated in written form with proof of receipt.
- 8.2 A notice shall be effective when delivered or on the notice’s effective date, whichever is later.
- 9. Governing Law**
- 9.1 The Contract shall be governed by and interpreted in accordance with the laws of the Purchaser’s Country, unless otherwise **specified in the SCC**.
- 9.2 Throughout the execution of the Contract, the Supplier shall comply with the import of goods and services prohibitions in the Purchaser’s Country when:
- (a) as a matter of law or official regulations, the Borrower’s country prohibits commercial relations with that country; or
 - (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower’s Country prohibits any import of goods from that country or any payments to any country, person, or entity in that country.
- 10. Settlement of Disputes**
- 10.1 The Purchaser and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.
- 10.2 If, after twenty-eight (28) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract. Arbitration proceedings shall be conducted in accordance with the rules of procedure **specified in the SCC**.
- 10.3 Notwithstanding any reference to arbitration herein,
- (a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
 - (b) the Purchaser shall pay the Supplier any monies due the Supplier.
- 11. Inspections and Audit by the Bank**
- 11.1 The Supplier shall keep, and shall make all reasonable efforts to cause its Subcontractors and subconsultants to keep, accurate and systematic accounts and records in respect of the Goods in such form and details as will clearly identify relevant time changes and costs.
- 11.2 Pursuant to paragraph 2.2 e. of Appendix 1 to the General Conditions the Supplier shall permit and shall cause its agents (where declared or not), subcontractors, subconsultants, service providers, suppliers, and personnel, to permit, the Bank and/or persons appointed by the Bank to inspect the site and/or the accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have such accounts,

records and other documents audited by auditors appointed by the Bank. The Supplier's and its Subcontractors' and subconsultants' attention is drawn to Sub-Clause 3.1 (Fraud and Corruption) which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures).

- 12. Scope of Supply** 12.1 The Goods and Related Services to be supplied shall be as specified in the Schedule of Requirements.
- 13. Delivery and Documents** 13.1 Subject to GCC Sub-Clause 33.1, the Delivery of the Goods and Completion of the Related Services shall be in accordance with the Delivery and Completion Schedule specified in the Schedule of Requirements. The details of shipping and other documents to be furnished by the Supplier are **specified in the SCC**.
- 14. Supplier's Responsibilities**
- 14.1 The Supplier shall supply all the Goods and Related Services included in the Scope of Supply in accordance with GCC Clause 12, and the Delivery and Completion Schedule, as per GCC Clause 13.
- 14.2 The Supplier, including its Subcontractors, shall not employ or engage forced labor or persons subject to trafficking, as described in GCC Sub-Clauses 14.3 and 14.4.
- 14.3 Forced labor consists of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty, and includes any kind of involuntary or compulsory labor, such as indentured labor, bonded labor or similar labor-contracting arrangements.
- 14.4 Trafficking in persons is defined as the recruitment, transportation, transfer, harbouring or receipt of persons by means of the threat or use of force or other forms of coercion, abduction, fraud, deception, abuse of power, or of a position of vulnerability, or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purposes of exploitation.
- 14.5 The Supplier, including its Subcontractors, shall not employ or engage a child under the age of 14 unless the national law specifies a higher age (the minimum age).
- 14.6 The Supplier, including its Subcontractors, shall not employ or engage a child between the minimum age and the age of 18 in a manner that is likely to be hazardous, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development.
- 14.7 Work considered hazardous for children is work that, by its nature or the circumstances in which it is carried out, is likely to jeopardize the health, safety, or morals of children. Such work activities prohibited for children include work:
- (a) with exposure to physical, psychological or sexual abuse;
 - (b) underground, underwater, working at heights or in confined spaces;

-
- (c) with dangerous machinery, equipment or tools, or involving handling or transport of heavy loads;
 - (d) in unhealthy environments exposing children to hazardous substances, agents, or processes, or to temperatures, noise or vibration damaging to health; or
 - (e) under difficult conditions such as work for long hours, during the night or in confinement on the premises of the employer.
- 14.8 The Supplier shall comply, and shall require its Subcontractors if any to comply, with all applicable health and safety regulations, laws, guidelines, and any other requirement stated in the Technical Specifications.
- 14.9 **Pursuant to the SCC**, the Supplier, including its Subcontractors/ suppliers/ manufacturers shall take all technical and organizational measures necessary to protect the information technology systems and data used in connection with the Contract. Without limiting the foregoing, the Supplier, including its Subcontractors/ suppliers/ manufacturers, shall use all reasonable efforts to establish, maintain, implement and comply with, reasonable information technology, information security, cyber security and data protection controls, policies and procedures, including oversight, access controls, encryption, technological and physical safeguards and business continuity/disaster recovery and security plans that are designed to protect against and prevent breach, destruction, loss, unauthorized distribution, use, access, disablement, misappropriation or modification, or other compromise or misuse of or relating to any information technology system or data used in connection with the Contract.
- 14.10 The Supplier shall comply with additional obligations as **specified in the SCC**.
- 15. Contract Price**
- 15.1 Prices charged by the Supplier for the Goods supplied and the Related Services performed under the Contract shall not vary from the prices quoted by the Supplier in its Bid, with the exception of any price adjustments **authorized in the SCC**.
- 16. Terms of Payment**
- 16.1 The Contract Price, including any Advance Payments, if applicable, shall be paid as **specified in the SCC**.
- 16.2 The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by invoices describing, as appropriate, the Goods delivered and Related Services performed, and by the documents submitted pursuant to GCC Clause 13 and upon fulfillment of all other obligations stipulated in the Contract.
- 16.3 Payments shall be made promptly by the Purchaser, but in no case later than sixty (60) days after submission of an invoice or request for payment by the Supplier, and after the Purchaser has accepted it.
- 16.4 The currencies in which payments shall be made to the Supplier under this Contract shall be those in which the Bid price is expressed.
- 16.5 In the event that the Purchaser fails to pay the Supplier any payment by its due date or within the period **set forth in the SCC**, the Purchaser shall pay to the Supplier interest on the amount of such delayed payment at the

rate **shown in the SCC**, for the period of delay until payment has been made in full, whether before or after judgment or arbitration award.

17. Taxes and Duties

- 17.1 For goods manufactured outside the Purchaser's Country, the Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the Purchaser's Country.
- 17.2 For goods Manufactured within the Purchaser's Country, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.
- 17.3 If any tax exemptions, reductions, allowances or privileges may be available to the Supplier in the Purchaser's Country, the Purchaser shall use its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.

18. Performance Security

- 18.1 If required as specified in the SCC, the Supplier shall, within twenty-eight (28) days of the notification of contract award, provide a performance security for the performance of the Contract in the amount **specified in the SCC**.
- 18.2 The proceeds of the Performance Security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- 18.3 As specified in the SCC, the Performance Security, if required, shall be denominated in the currency (ies) of the Contract, or in a freely convertible currency acceptable to the Purchaser; and shall be in one of the format stipulated by the **Purchaser in the SCC**, or in another format acceptable to the Purchaser.
- 18.4 The Performance Security shall be discharged by the Purchaser and returned to the Supplier not later than twenty-eight (28) days following the date of Completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless **specified otherwise in the SCC**.

19. Copyright

- 19.1 The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party.

20. Confidential Information

- 20.1 The Purchaser and the Supplier shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data, or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following completion or termination of the Contract. Notwithstanding the above, the Supplier may furnish to its Subcontractor such documents, data, and other information it receives from the Purchaser to the extent required for the Subcontractor to perform its work under the Contract, in which event the Supplier shall obtain from such Subcontractor an undertaking of

confidentiality similar to that imposed on the Supplier under GCC Clause 20.

- 20.2 The Purchaser shall not use such documents, data, and other information received from the Supplier for any purposes unrelated to the contract. Similarly, the Supplier shall not use such documents, data, and other information received from the Purchaser for any purpose other than the performance of the Contract.
- 20.3 The obligation of a party under GCC Sub-Clauses 20.1 and 20.2 above, however, shall not apply to information that:
- (a) the Purchaser or Supplier need to share with the Bank or other institutions participating in the financing of the Contract;
 - (b) now or hereafter enters the public domain through no fault of that party;
 - (c) can be proven to have been possessed by that party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other party; or
 - (d) otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.
- 20.4 The above provisions of GCC Clause 20 shall not in any way modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the Supply or any part thereof.
- 20.5 The provisions of GCC Clause 20 shall survive completion or termination, for whatever reason, of the Contract.

21. Subcontracting

- 21.1 The Supplier shall notify the Purchaser in writing of all subcontracts awarded under the Contract if not already specified in the Bid. Notification by the Supplier, for addition of any Subcontractor not named in the Contract, shall also include the Subcontractor's declaration in accordance with Appendix 2 to the GCC- Sexual exploitation and Abuse (SEA) and/or Sexual Harassment (SH) Performance Declaration. Such notification, in the original Bid or later shall not relieve the Supplier from any of its obligations, duties, responsibilities, or liability under the Contract.
- 21.2 Subcontracts shall comply with the provisions of GCC Clauses 3 and 7.

22. Specifications and Standards

- 22.1 Technical Specifications and Drawings

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- (a) The Goods and Related Services supplied under this Contract shall conform to the technical specifications and standards mentioned in Section VI, Schedule of Requirements and, when no applicable standard is mentioned, the standard shall be equivalent or superior to the official standards whose application is appropriate to the Goods' country of origin.
 - (b) The Supplier shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof provided or designed by or on behalf of the Purchaser, by giving a notice of such disclaimer to the Purchaser.
 - (c) Wherever references are made in the Contract to codes and standards in accordance with which it shall be executed, the edition or the revised version of such codes and standards shall be those specified in the Schedule of Requirements. During Contract execution, any changes in any such codes and standards shall be applied only after approval by the Purchaser and shall be treated in accordance with GCC Clause 33.

23. Packing and Documents

- 23.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. During transit, the packing shall be sufficient to withstand, without limitation, rough handling and exposure to extreme temperatures, salt and precipitation, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.
- 23.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, **specified in the SCC**, and in any other instructions ordered by the Purchaser.

24. Insurance

- 24.1 Unless otherwise **specified in the SCC**, the Goods supplied under the Contract shall be fully insured—in a freely convertible currency from an eligible country—against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery, in accordance with the applicable Incoterms or in the manner specified in the **SCC**.

25. Transportation and Incidental Services

- 25.1 Unless otherwise **specified in the SCC**, responsibility for arranging transportation of the Goods shall be in accordance with the specified Incoterms.
- 25.2 The Supplier may be required to provide any or all of the following services, including additional services, if any, **specified in SCC**:
 - (a) performance or supervision of on-site assembly and/or start-up of the supplied Goods;
 - (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;

-
- (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods;
 - (d) performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and
 - (e) training of the Purchaser's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.

25.3 Prices charged by the Supplier for incidental services, if not included in the Contract Price for the Goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services

26. Inspections and Tests

26.1 The Supplier shall at its own expense and at no cost to the Purchaser carry out all such tests and/or inspections of the Goods and Related Services as are **specified in the SCC**.

26.2 The inspections and tests may be conducted on the premises of the Supplier or its Subcontractor, at point of delivery, and/or at the Goods' final destination, or in another place in the Purchaser's Country as **specified in the SCC**. Subject to GCC Sub-Clause 26.3, if conducted on the premises of the Supplier or its Subcontractor, all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Purchaser.

26.3 The Purchaser or its designated representative shall be entitled to attend the tests and/or inspections referred to in GCC Sub-Clause 26.2, provided that the Purchaser bear all of its own costs and expenses incurred in connection with such attendance including, but not limited to, all traveling and board and lodging expenses.

26.4 Whenever the Supplier is ready to carry out any such test and inspection, it shall give a reasonable advance notice, including the place and time, to the Purchaser. The Supplier shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Purchaser or its designated representative to attend the test and/or inspection.

26.5 The Purchaser may require the Supplier to carry out any test and/or inspection not required by the Contract but deemed necessary to verify that the characteristics and performance of the Goods comply with the technical specifications codes and standards under the Contract, provided that the Supplier's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impedes the progress of manufacturing and/or the Supplier's performance of its other obligations under the Contract, due allowance will be made in respect of the Delivery Dates and Completion Dates and the other obligations so affected.

26.6 The Supplier shall provide the Purchaser with a report of the results of any such test and/or inspection.

26.7 The Purchaser may reject any Goods or any part thereof that fail to pass any test and/or inspection or do not conform to the specifications. The

Supplier shall either rectify or replace such rejected Goods or parts thereof or make alterations necessary to meet the specifications at no cost to the Purchaser, and shall repeat the test and/or inspection, at no cost to the Purchaser, upon giving a notice pursuant to GCC Sub-Clause 26.4.

26.8 The Supplier agrees that neither the execution of a test and/or inspection of the Goods or any part thereof, nor the attendance by the Purchaser or its representative, nor the issue of any report pursuant to GCC Sub-Clause 26.6, shall release the Supplier from any warranties or other obligations under the Contract.

27. Liquidated Damages

27.1 Except as provided under GCC Clause 32, if the Supplier fails to deliver any or all of the Goods by the Date(s) of delivery or perform the Related Services within the period specified in the Contract, the Purchaser may without prejudice to all its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage **specified in the SCC** of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage **specified in those SCC**. Once the maximum is reached, the Purchaser may terminate the Contract pursuant to GCC Clause 35.

28. Warranty

28.1 The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.

28.2 Subject to GCC Sub-Clause 22.1(b), the Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in the country of final destination.

28.3 Unless otherwise **specified in the SCC**, the warranty shall remain valid for twelve (12) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination **indicated in the SCC**, or for eighteen (18) months after the date of shipment from the port or place of loading in the country of origin, whichever period concludes earlier.

28.4 The Purchaser shall give notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects.

28.5 Upon receipt of such notice, the Supplier shall, within the period **specified in the SCC**, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.

28.6 If having been notified, the Supplier fails to remedy the defect within the period **specified in the SCC**, the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

29. Patent Indemnity

29.1 The Supplier shall, subject to the Purchaser's compliance with GCC Sub-Clause 29.2, indemnify and hold harmless the Purchaser and its

employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of:

- (a) the installation of the Goods by the Supplier or the use of the Goods in the country where the Site is located; and
- (b) the sale in any country of the products produced by the Goods.

Such indemnity shall not cover any use of the Goods or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Contract, neither any infringement resulting from the use of the Goods or any part thereof, or any products produced thereby in association or combination with any other equipment, plant, or materials not supplied by the Supplier, pursuant to the Contract.

29.2 If any proceedings are brought or any claim is made against the Purchaser arising out of the matters referred to in GCC Sub-Clause 29.1, the Purchaser shall promptly give the Supplier a notice thereof, and the Supplier may at its own expense and in the Purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

29.3 If the Supplier fails to notify the Purchaser within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Purchaser shall be free to conduct the same on its own behalf.

29.4 The Purchaser shall, at the Supplier's request, afford all available assistance to the Supplier in conducting such proceedings or claim, and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.

29.5 The Purchaser shall indemnify and hold harmless the Supplier and its employees, officers, and Subcontractors from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Supplier may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or designed by or on behalf of the Purchaser.

30. Limitation of Liability

30.1 Except in cases of criminal negligence or willful misconduct,

- (a) the Supplier shall not be liable to the Purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any

obligation of the Supplier to pay liquidated damages to the Purchaser and

- (b) the aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the supplier to indemnify the Purchaser with respect to patent infringement

31. Change in Laws and Regulations

- 31.1 Unless otherwise specified in the Contract, if after the date of 28 days prior to date of Bid submission, any law, regulation, ordinance, order or bylaw having the force of law is enacted, promulgated, abrogated, or changed in the place of the Purchaser's Country where the Site is located (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the Delivery Date and/or the Contract Price, then such Delivery Date and/or Contract Price shall be correspondingly increased or decreased, to the extent that the Supplier has thereby been affected in the performance of any of its obligations under the Contract. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable, in accordance with GCC Clause 15.

32. Force Majeure

- 32.1 The Supplier shall not be liable for forfeiture of its Performance Security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- 32.2 For purposes of this Clause, "Force Majeure" means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.
- 32.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

33. Change Orders and Contract Amendments

- 33.1 The Purchaser may at any time order the Supplier through notice in accordance GCC Clause 8, to make changes within the general scope of the Contract in any one or more of the following:

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- (a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
 - (b) the method of shipment or packing;
 - (c) the place of delivery; and
 - (d) the Related Services to be provided by the Supplier.

33.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or in the Delivery/Completion Schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this Clause must be asserted within twenty-eight (28) days from the date of the Supplier's receipt of the Purchaser's change order.

33.3 Prices to be charged by the Supplier for any Related Services that might be needed but which were not included in the Contract shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.

33.4 **Value Engineering:** The Supplier may prepare, at its own cost, a value engineering proposal at any time during the performance of the contract. The value engineering proposal shall, at a minimum, include the following;

- (a) the proposed change(s), and a description of the difference to the existing contract requirements;
- (b) a full cost/benefit analysis of the proposed change(s) including a description and estimate of costs (including life cycle costs) the Purchaser may incur in implementing the value engineering proposal; and
- (c) a description of any effect(s) of the change on performance/functionality.

The Purchaser may accept the value engineering proposal if the proposal demonstrates benefits that:

- (a) accelerates the delivery period; or
- (b) reduces the Contract Price or the life cycle costs to the Purchaser; or
- (c) improves the quality, efficiency or sustainability of the Goods; or
- (d) yields any other benefits to the Purchaser,

without compromising the necessary functions of the Facilities.

If the value engineering proposal is approved by the Purchaser and results in:

- (a) a reduction of the Contract Price; the amount to be paid to the Supplier shall be the percentage specified **in the PCC** of the reduction in the Contract Price; or
- (b) an increase in the Contract Price; but results in a reduction in life cycle costs due to any benefit described in (a) to (d) above, the

amount to be paid to the Supplier shall be the full increase in the Contract Price.

33.5 Subject to the above, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

34. Extensions of Time

34.1 If at any time during performance of the Contract, the Supplier or its subcontractors should encounter conditions impeding timely delivery of the Goods or completion of Related Services pursuant to GCC Clause 13, the Supplier shall promptly notify the Purchaser in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier's time for performance, in which case the extension shall be ratified by the parties by amendment of the Contract.

34.2 Except in case of Force Majeure, as provided under GCC Clause 32, a delay by the Supplier in the performance of its Delivery and Completion obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 26, unless an extension of time is agreed upon, pursuant to GCC Sub-Clause 34.1.

35. Termination

35.1 Termination for Default

- (a) The Purchaser, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate the Contract in whole or in part:
 - (i) *if the Supplier fails to deliver any or all of the Goods within the period specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 34;*
 - (ii) *if the Supplier fails to perform any other obligation under the Contract; or*
 - (iii) *if the Supplier, in the judgment of the Purchaser has engaged in Fraud and Corruption, as defined in paragraph 2.2 a of the Appendix 1 to the GCC, in competing for or in executing the Contract.*
- (b) In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 35.1(a), the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Related Services similar to those undelivered or not performed, and the Supplier shall be liable to the Purchaser for any additional costs for such similar Goods or Related Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

35.2 Termination for Insolvency.

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- (a) The Purchaser may at any time terminate the Contract by giving notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In such event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to the Purchaser

35.3 Termination for Convenience.

- (a) The Purchaser, by notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.
- (b) The Goods that are complete and ready for shipment within twenty-eight (28) days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:
 - (i) *to have any portion completed and delivered at the Contract terms and prices; and/or*
 - (ii) *to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Related Services and for materials and parts previously procured by the Supplier.*

36. Assignment

- 36.1 Neither the Purchaser nor the Supplier shall assign, in whole or in part, their obligations under this Contract, except with prior written consent of the other party.

37. Export Restriction

- 37.1 Notwithstanding any obligation under the Contract to complete all export formalities, any export restrictions attributable to the Purchaser, to the country of the Purchaser, or to the use of the products/goods, systems or services to be supplied, which arise from trade regulations from a country supplying those products/goods, systems or services, and which substantially impede the Supplier from meeting its obligations under the Contract, shall release the Supplier from the obligation to provide deliveries or services, always provided, however, that the Supplier can demonstrate to the satisfaction of the Purchaser and of the Bank that it has completed all formalities in a timely manner, including applying for permits, authorizations and licenses necessary for the export of the products/goods, systems or services under the terms of the Contract. Termination of the Contract on this basis shall be for the Purchaser's convenience pursuant to Sub-Clause 35.3.

APPENDIX 1

(Text in this Appendix shall not be modified)

Fraud and Corruption

1. Purpose

1.1 The Bank's Anti-Corruption Guidelines and this annex apply with respect to procurement under Bank Investment Project Financing operations.

2. Requirements

2.1 The Bank requires that Borrowers (including beneficiaries of Bank financing); bidders (applicants/proposers), consultants, contractors and suppliers; any sub-contractors, sub-consultants, service providers or suppliers; any agents (whether declared or not); and any of their personnel, observe the highest standard of ethics during the procurement process, selection and contract execution of Bank-financed contracts, and refrain from Fraud and Corruption.

2.2 To this end, the Bank:

- a. Defines, for the purposes of this provision, the terms set forth below as follows:
 - i. "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
 - ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
 - iii. "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
 - iv. "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
 - v. "obstructive practice" is:
 - (a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
 - (b) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 2.2 e. below.

- b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- d. Pursuant to the Bank's Anti-Corruption Guidelines, and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;¹ (ii) to be a nominated² sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project;
- e. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders (applicants/proposers), consultants, contractors, and suppliers, and their sub-contractors, sub-consultants, service providers, suppliers, agents personnel, permit the Bank to inspect³ all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the Bank.

¹ For the avoidance of doubt, a sanctioned party's ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and bidding, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

² A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

³ Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Bank or persons appointed by the Bank to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.

APPENDIX 2

Sexual Exploitation and Abuse (SEA) and/or Sexual Harassment (SH) Performance Declaration for Subcontractors*

[The following table shall be filled in by each subcontractor proposed by the Supplier, that was not named in the Contract]

Subcontractor's Name: [insert full name]

Date: [insert day, month, year]

Contract reference [insert contract reference]

Page [insert page number] of [insert total number] pages

SEA and/or SH Declaration
We:
<input type="checkbox"/> (a) have not been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations.
<input type="checkbox"/> (b) are subject to disqualification by the Bank for non-compliance with SEA/ SH obligations.
<input type="checkbox"/> (c) had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations, and were removed from the disqualification list. An arbitral award on the disqualification case has been made in our favor.
<i>[If (c) above is applicable, attach evidence of an arbitral award reversing the findings on the issues underlying the disqualification.]</i>
Period of disqualification: From: _____ To: _____

Name of the Subcontractor _____

Name of the person duly authorized to sign on behalf of the Subcontractor _____

Title of the person signing on behalf of the Subcontractor _____

Signature of the person named above _____

Date signed _____ day of _____, _____

Countersignature of authorized representative of the Supplier:

Signature: _____

Date signed _____ day of _____, _____

Section IX - Special Conditions of Contract

The following Special Conditions of Contract (SCC) shall supplement and / or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

GCC 1.1(i)	The Purchaser's Country is: Bangladesh.
GCC 1.1(j)	The Purchaser is: Bangladesh Computer Council (BCC) Represented by Project Director, Enhancing Digital Government and Economy (EDGE) Project
GCC 1.1 (o)	The Project Site(s)/Final Destination(s) is/are: Enhancing Digital Government and Economy (EDGE) Project Bangladesh Computer Council (BCC), 7 th Floor, ICT Tower, Plot # E-14/X, Agargaon, Sher-e-Bangla Nagar, Dhaka – 1207, Bangladesh.
GCC 1.1 (p)	The term SEA/SH where used in the Contract has the following meaning: <ul style="list-style-type: none"> • “Sexual Exploitation and Abuse” “(SEA)” means the following: Sexual Exploitation is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another. Sexual Abuse is defined as the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions. • “Sexual Harassment” “(SH)” is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature by supplier's personnel with other supplier's, or purchaser's personnel.
GCC 4.2 (a)	The meaning of the trade terms shall be as prescribed by Incoterms. If the meaning of any trade term and the rights and obligations of the parties thereunder shall not be as prescribed by Incoterms, they shall be as prescribed by any other internationally accepted trade terms.
GCC 4.2 (b)	The version edition of Incoterms shall be Incoterms 2020.
GCC 5.1	The language shall be: English

GCC 8.1	<p>For notices, the Purchaser’s address shall be:</p> <p>Project Director Enhancing Digital Government and Economy (EDGE) Project Youth Tower (Level-5), 822/2, Rokeya Sarani, Dhaka-1216, Bangladesh Telephone: +88 02 55007193 E-mail: piu.edge@bcc.gov.bd</p>
GCC 9.1	<p>The governing law shall be the law of <i>Bangladesh</i>.</p>
GCC 10.2	<p>The rules of procedure for arbitration proceedings pursuant to GCC Clause 10.2 shall be as follows:</p> <p><i>Clause 10.2 (a) shall be retained in the case of a Contract with a foreign Supplier and clause 10.2 (b) shall be retained in the case of a Contract with a national of the Purchaser’s Country.</i></p> <p><i>(a) Contract with foreign Supplier (including a Joint Venture when at least one partner is outside the Purchaser’s Country):</i></p> <p>GCC 10.2 (a)—Any dispute, controversy or claim arising out of or relating to this Contract, or breach, termination or invalidity thereof, shall be settled by arbitration in accordance with the UNCITRAL Arbitration Rules as at present in force.</p> <p><i>(b) Contracts with Supplier national of the Purchaser’s Country:</i></p> <p>In the case of a dispute between the Purchaser and a Supplier who is a national of the Purchaser’s Country, the dispute shall be referred to adjudication or arbitration in accordance with the laws of the Purchaser’s Country.</p>
GCC 13.1	<p>Details of Shipping and other Documents to be furnished by the Supplier are:</p> <p>1. For Goods supplied from abroad as per INCOTERM CIP</p> <p>The Supplier shall provide the Purchaser with shipping and other documents as follows;</p> <ul style="list-style-type: none"> (a) Original plus five (05) copies of Bill of Lading (b) Original plus five (05) copies of Supplier’s invoice showing goods’ description, quantity, unit price, total amount; (c) Original plus five (05) copies of the packing list identifying the contents of each package (d) Original plus five (05) copies of manufacturer’s warranty certificate (e) Original plus five (05) copies the manufacturer’s factory inspection report

	<p>(f) Original plus five (05) copies of the inspection certificate(s) issued by the nominated inspection agency (or the Purchaser) (if applicable);</p> <p>(g) Original plus five (05) copies of certificate of origin.</p> <p>The above documents shall be received by the Purchaser at least two weeks before arrival of the Goods at the place of arrival and, if not received, the Supplier will be responsible for any consequent expenses.</p> <p>2. For Goods from within the Purchaser's country as per INCOTERM EXW:</p> <p>For Goods supplied from within Bangladesh, upon delivery of the Goods to the transporter, the Supplier shall notify the purchaser and mail the following documents to the purchaser:</p> <p>a) One original plus five copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount;</p> <p>b) Delivery note, railway receipt, or truck receipt;</p> <p>c) Manufacturer's or Supplier's warranty certificate;</p> <p>d) Inspection certificate issued by the nominated inspection agency, and the Supplier's factory inspection report; and</p> <p>e) Certificate of country of origin issued by the Chamber of Commerce or equivalent authority in the country of origin in duplicate.</p> <p>The above documents shall be received by the Purchaser before arrival of the Goods and, if not received, the Supplier will be responsible for any consequent expenses.</p>
GCC 14.9	Cyber Security does not apply
GCC 14.10	Not Applicable.
GCC 15.1	<p>The prices charged for the Goods supplied and the related Services performed shall not be adjustable.</p> <p>If prices are adjustable, the following method shall be used to calculate the price adjustment Not Applicable.</p>
GCC 16.1	<p>GCC 16.1—The method and conditions of payment to be made to the Supplier under this Contract shall be as follows:</p> <p>Payment for Goods supplied from abroad for each lot:</p> <p>Payment of foreign currency portion shall be made in the following manner:</p> <p>(i) Advance Payment: Ten (10) percent of the pro-rata Contract Price shall be paid within thirty (30) days of signing of the Contract, and upon submission of claim and a bank guarantee</p>

for equivalent amount valid until the Goods are delivered and in the form provided in the bidding document or another form acceptable to the Purchaser.

- (ii) **On Shipment:** Fifty (50) percent of the pro-rata Contract Price of the Goods shipped shall be paid through irrevocable confirmed letter of credit opened in favor of the Supplier in a bank in its country, upon submission of documents specified in GCC Clause 13.
- (iii) **On Acceptance:** Forty (40) percent of the pro-rata Contract Price of Goods received shall be paid within thirty (30) days of receipt of the Goods upon submission of claim supported by the acceptance certificate issued by the Purchaser.

If advance payment is not taken by the supplier, the amount will be paid with Acceptance.

Payment of local currency portion shall be made in local currency within thirty (30) days of presentation of claim supported by a certificate from the Purchaser declaring that the Goods have been delivered and that all other contracted Services have been performed.

Payment for Goods and Services supplied from within the Purchaser's Country for each lot:

Payment for Goods and Services supplied from within the Purchaser's Country shall be made in local currency, as follows:

- (i) **Advance Payment:** Ten (10) percent of the pro-rata Contract Price shall be paid within thirty (30) days of signing of the Contract against a simple receipt and a bank guarantee for the equivalent amount and in the form provided in the bidding document or another form acceptable to the Purchaser.
- (ii) **On Delivery:** Fifty (50) percent of the pro-rata Contract Price shall be paid on receipt of the Goods and upon submission of the documents specified in GCC Clause 13.
- (iii) **On Acceptance:** The remaining Forty (40) percent of the pro-rata Contract Price shall be paid to the Supplier within thirty (30) days after the date of the acceptance certificate for the respective delivery issued by the Purchaser.

If advance payment is not taken by the supplier, the amount will be paid with Acceptance.

GCC 16.5	<p>The payment-delay period after which the Purchaser shall pay interest to the supplier shall be 45 days.</p> <p>On foreign currency: Secured Overnight Financing Rate (SOFR) + 1% On local currency: Dhaka Inter Bank Offered Rate (DIBOR).</p>
GCC 18.1	<p>A Performance Security shall be required.</p> <p>The Performance Security shall be an amount equal to Ten (10) percent of the Contract Price.</p>
GCC 18.3	<p>If required, the Performance Security shall be in the form of a Bank Guarantee.</p> <p>If required, the Performance security shall be denominated in the currencies of payment of the Contract, in accordance with their portions of the Contract Price.</p>
GCC 18.4	<p>Discharge of the Performance Security shall take place:</p> <p>As mentioned in GCC clause.</p>

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<p>GCC 23.2</p>	<p>The packing, marking and documentation within and outside the packages shall be:</p> <p>The goods have to be supplied in CBU condition and are to be securely packed with sea worthy (if anything is, transport by AIR as spare parts, it should be air worthy) packing and clearly marked for safe transit by Sea. The packing/marketing will be done by the suppliers so that the goods will not be affected by sea water & damp weather. All goods will be marked with the following particulars and packed as per following instructions during transportation:</p> <p>A complete packing list indicating the content of each package shall be enclosed in a water proof envelope and shall be secured to the outside of the packing case. In addition, each package shall be marked with indelible ink/paint in bold letters, as follows:</p> <ul style="list-style-type: none"> • Contract Number and date Name and address of Purchaser • Country of origin Gross weight • Net weight • Package numbers and total number of packages • Brief description of the content <p>Upright markings, where appropriate, shall be placed on all four vertical sides of the package. All materials used for packing shall be environmentally neutral.</p> <p>The Supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. During transit, the packing shall be sufficient to withstand,</p> <p>without limitation, rough handling and exposure to extreme temperatures, salt and precipitation, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit. In addition, the packing shall comply strictly with special requirements.</p>
<p>GCC 24.1</p>	<p>The insurance coverage shall be as specified in the Incoterms.</p>

GCC 25.1	The Supplier is required under the Contract to transport the Goods duly insured to the specified final destination, and until the commissioning & final acceptance of each equipment, and all related costs shall be included in the Contract Price
GCC 25.2	<p>Incidental services to be provided are:</p> <ul style="list-style-type: none"> (a) performance or supervision of on-site assembly and/or start-up of the supplied Goods; (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods; (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods; (d) performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and (e) training of the Purchaser's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.
GCC 26.1	<p>The inspections and tests shall be:</p> <p>The inspection and test, each item indicated in the Schedule of requirement, shall be performed to check whether the supplied item(s) are in conformity with the contract provisions and conform to the required technical specifications stipulated in the contract.</p> <p>If the items fail to meet the laid down specifications the supplier shall take immediate steps to remedy the deficiency or replace the defective parts of each to the satisfaction of the purchaser/consignee.</p> <p>The Purchaser's right to inspect, test and where appropriate reject the Goods after delivery, shall in no way be limited or waived by the reason of Goods having previously been inspected, tested or passed by the Purchaser or its representative prior the Goods shipment.</p>
GCC 26.2	The Inspections and tests shall be conducted at: Bangladesh Computer Council, ICT Tower, Agargaon, Dhaka, Bangladesh
GCC 27.1	The liquidated damage shall be: 0.5% per week
GCC 27.1	The maximum amount of liquidated damages shall be: 10%
GCC 28.3	The period of validity of the Warranty shall be: twelve (12) months from the date of commissioning of the Goods by the Purchaser

	For purposes of the Warranty, the place(s) of final destination(s) shall be: Bangladesh Computer Council, ICT Tower, Agargaon, Dhaka, Bangladesh
GCC 28.5 & 28.6	The period for repair or replacement shall be: 7 (seven) days for repair /28 (twenty-eight) days for replacement.
GCC 33.4	Not Applicable.

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Attachment: Price Adjustment Formula – Not Applicable

If in accordance with GCC 15.1, prices shall be adjustable, the following method shall be used to calculate the price adjustment:

- 15.1 Prices payable to the Supplier, as stated in the Contract, shall be subject to adjustment during performance of the Contract to reflect changes in the cost of labor and material components in accordance with the formula:

$$P_1 = P_0 \left[a + \frac{bL_1}{L_0} + \frac{cM_1}{M_0} \right] - P_0$$

$$a+b+c = 1$$

in which:

- P_1 = adjustment amount payable to the Supplier.
 P_0 = Contract Price (base price).
 a = fixed element representing profits and overheads included in the Contract Price and generally in the range of five (5) to fifteen (15) percent.
 b = estimated percentage of labor component in the Contract Price.
 c = estimated percentage of material component in the Contract Price.
 L_0, L_1 = *labor indices applicable to the appropriate industry in the country of origin on the base date and date for adjustment, respectively.
 M_0, M_1 = *material indices for the major raw material on the base date and date for adjustment, respectively, in the country of origin.

The Bidder shall indicate the source of the indices and the base date indices in its Bid. The coefficients a , b , and c as specified by the Purchaser are as follows:

- $a = [insert\ value\ of\ coefficient]$
 $b = [insert\ value\ of\ coefficient]$
 $c = [insert\ value\ of\ coefficient]$

Base date = thirty (30) days prior to the deadline for submission of the Bids.

Date of adjustment = $[insert\ number\ of\ weeks]$ weeks prior to date of shipment (representing the mid-point of the period of manufacture).

The above price adjustment formula shall be invoked by either party subject to the following further conditions:

- (a) No price adjustment shall be allowed beyond the original delivery dates. As a rule, no price adjustment shall be allowed for periods of delay for which the Supplier is entirely responsible. The Purchaser will, however, be entitled to any decrease in the prices of the Goods and Services subject to adjustment.

- (b) If the currency in which the Contract Price P_0 is expressed is different from the currency of origin of the labor and material indices, a correction factor will be applied to avoid incorrect adjustments of the Contract Price. The correction factor shall be: Z_0 / Z_1 , where,

Z_0 = the number of units of currency of the origin of the indices which equal to one unit of the currency of the Contract Price P_0 on the Base date, and

Z_1 = the number of units of currency of the origin of the indices which equal to one unit of the currency of the Contract Price P_0 on the Date of Adjustment.

- (c) No price adjustment shall be payable on the portion of the Contract Price paid to the Supplier as advance payment.

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Section X - Contract Forms

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Notification of Intention to Award

[This Notification of Intention to Award shall be sent to each Bidder that submitted a Bid, unless the Bidder has previously received notice of exclusion from the process at an interim stage of the procurement process.]

[Send this Notification to the Bidder’s Authorized Representative named in the Bidder Information Form]

For the attention of Bidder’s Authorized Representative

Name: *[insert Authorized Representative’s name]*

Address: *[insert Authorized Representative’s Address]*

Telephone/Fax numbers: *[insert Authorized Representative’s telephone/fax numbers]*

Email Address: *[insert Authorized Representative’s email address]*

[IMPORTANT: insert the date that this Notification is transmitted to Bidders. The Notification must be sent to all Bidders simultaneously. This means on the same date and as close to the same time as possible.]

DATE OF TRANSMISSION: This Notification is sent by: *[email/fax]* on *[date]* (local time)

Notification of Intention to Award

Purchaser: *[insert the name of the Purchaser]*

Project: *[insert name of project]*

Contract title: *[insert the name of the contract]*

Country: *[insert country where RFB is issued]*

Loan No. /Credit No. / Grant No.: *[insert reference number for loan/credit/grant]*

RFB No: *[insert RFB reference number from Procurement Plan]*

This Notification of Intention to Award (Notification) notifies you of our decision to award the above contract. The transmission of this Notification begins the Standstill Period. During the Standstill Period you may:

- a) request a debriefing in relation to the evaluation of your Bid, and/or
- b) submit a Procurement-related Complaint in relation to the decision to award the contract.

1. The successful Bidder

Name:	<i>[insert name of successful Bidder]</i>
Address:	<i>[insert address of the successful Bidder]</i>
Contract price:	<i>[insert contract price of the successful Bid]</i>

Total combined score:	<i>[insert the total combined score of the successful Bidder]</i>
------------------------------	---

2. Other Bidders *[INSTRUCTIONS: insert names of all Bidders that submitted a Bid, Bid prices as read out and evaluated, technical scores and combined scores.]*

Name of Bidder	Technical Score	Bid Price	Evaluated Bid Cost	Combined Score
<i>[insert name]</i>	<i>[insert Technical score]</i>	<i>[insert Bid price]</i>	<i>[insert evaluated cost]</i>	<i>[insert combined score]</i>
<i>[insert name]</i>	<i>[insert Technical score]</i>	<i>[insert Bid price]</i>	<i>[insert evaluated cost]</i>	<i>[insert combined score]</i>
<i>[insert name]</i>	<i>[insert Technical score]</i>	<i>[insert Bid price]</i>	<i>[insert evaluated cost]</i>	<i>[insert combined score]</i>
<i>[insert name]</i>	<i>[insert Technical score]</i>	<i>[insert Bid price]</i>	<i>[insert evaluated cost]</i>	<i>[insert combined score]</i>
<i>[insert name]</i>	<i>[insert Technical score]</i>	<i>[insert Bid price]</i>	<i>[insert evaluated cost]</i>	<i>[insert combined score]</i>

3. Reason/s why your Bid was unsuccessful *[Delete if the combined score already reveals the reason]*

[INSTRUCTIONS: State the reason/s why this Bidder’s Bid was unsuccessful. Do NOT include: (a) a point by point comparison with another Bidder’s Bid or (b) information that is marked confidential by the Bidder in its Bid.]

4. How to request a debriefing

DEADLINE: The deadline to request a debriefing expires at midnight on *[insert date]* (local time).

You may request a debriefing in relation to the results of the evaluation of your Bid. If you decide to request a debriefing your written request must be made within three (3) Business Days of receipt of this Notification of Intention to Award.

Provide the contract name, reference number, name of the Bidder, contact details; and address the request for debriefing as follows:

Attention: *[insert full name of person, if applicable]*

Title/position: *[insert title/position]*

Agency: *[insert name of Purchaser]*

Email address: *[insert email address]*

Fax number: *[insert fax number] delete if not used*

If your request for a debriefing is received within the 3 Business Days deadline, we will provide the debriefing within five (5) Business Days of receipt of your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (5) Business Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.

The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.

If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of the Contract Award Notice.

5. How to make a complaint

Period: Procurement-related Complaint challenging the decision to award shall be submitted by midnight, [insert date] (local time).

Provide the contract name, reference number, name of the Bidder, contact details; and address the Procurement-related Complaint as follows:

Attention: [insert full name of person, if applicable]

Title/position: [insert title/position]

Agency: [insert name of Purchaser]

Email address: [insert email address]

Fax number: [insert fax number] *delete if not used*

At this point in the procurement process, you may submit a Procurement-related Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends.

Further information:

For more information see the Procurement Regulations for IPF Borrowers (Procurement Regulations) (Annex III). You should read these provisions before preparing and submitting your complaint. In addition, the World Bank's Guidance "How to make a Procurement-related Complaint" provides a useful explanation of the process, as well as a sample letter of complaint.

In summary, there are four essential requirements:

1. You must be an 'interested party'. In this case, that means a Bidder who submitted a Bid in this bidding process, and is the recipient of a Notification of Intention to Award.
2. The complaint can only challenge the decision to award the contract.
3. You must submit the complaint within the period stated above.
4. You must include, in your complaint, all of the information required by the Procurement Regulations (as described in Annex III).

6. Standstill Period

DEADLINE: The Standstill Period is due to end at midnight on [insert date] (local time).

The Standstill Period lasts ten (10) Business Days after the date of transmission of this Notification of Intention to Award.

The Standstill Period may be extended as stated in Section 4 above.

If you have any questions regarding this Notification please do not hesitate to contact us.

On behalf of the Purchaser:

Signature: _____

Name: _____

Title/position: _____

Telephone: _____

Email: _____

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Beneficial Ownership Disclosure Form

INSTRUCTIONS TO BIDDERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE FORM

This Beneficial Ownership Disclosure Form (“Form”) is to be completed by the successful Bidder¹. In case of joint venture, the Bidder must submit a separate Form for each member. The beneficial ownership information to be submitted in this Form shall be current as of the date of its submission.

For the purposes of this Form, a Beneficial Owner of a Bidder is any natural person who ultimately owns or controls the Bidder by meeting one or more of the following conditions:

- *directly or indirectly holding 25% or more of the shares*
- *directly or indirectly holding 25% or more of the voting rights*
- *directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Bidder*

RFB No.: *[insert number of RFB process]*

Request for Bid No.: *[insert identification]*

To: *[insert complete name of Purchaser]*

In response to your request in the Letter of Acceptance dated *[insert date of letter of Acceptance]* to furnish additional information on beneficial ownership: *[select one option as applicable and delete the options that are not applicable]*

(i) we hereby provide the following beneficial ownership information.

Details of beneficial ownership

Identity of Beneficial Owner	Directly or indirectly holding 25% or more of the shares (Yes / No)	Directly or indirectly holding 25 % or more of the Voting Rights (Yes / No)	Directly or indirectly having the right to appoint a majority of the board of the directors or an equivalent governing body of the Bidder (Yes / No)
<i>[include full name (last, middle, first), nationality, country of residence]</i>			

OR

(ii) *We declare that there is no Beneficial Owner meeting one or more of the following conditions:*

- directly or indirectly holding 25% or more of the shares
- directly or indirectly holding 25% or more of the voting rights
- directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Bidder

OR

(iii) *We declare that we are unable to identify any Beneficial Owner meeting one or more of the following conditions. [If this option is selected, the Bidder shall provide explanation on why it is unable to identify any Beneficial Owner]*

- directly or indirectly holding 25% or more of the shares
- directly or indirectly holding 25% or more of the voting rights
- directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Bidder”

Name of the Bidder: **[insert complete name of the Bidder]* _____

Name of the person duly authorized to sign the Bid on behalf of the Bidder: ***[insert complete name of person duly authorized to sign the Bid]* _____

Title of the person signing the Bid: *[insert complete title of the person signing the Bid]* _____

Signature of the person named above: *[insert signature of person whose name and capacity are shown above]* _____

Date signed *[insert date of signing]* **day of** *[insert month], [insert year]* _____

* In the case of the Bid submitted by a Joint Venture specify the name of the Joint Venture as Bidder. In the event that the Bidder is a joint venture, each reference to “Bidder” in the Beneficial Ownership Disclosure Form (including this Introduction thereto) shall be read to refer to the joint venture member.

** Person signing the Bid shall have the power of attorney given by the Bidder. The power of attorney shall be attached with the Bid Schedules.

Letter of Acceptance

[letterhead paper of the Purchaser]

[date]

To: *[name and address of the Supplier]*

Subject: **Notification of award Contract No.**

This is to notify you that your Bid dated *[insert date]* for execution of the
[insert name of the contract and identification number, as given in the SCC] for
the Accepted Contract Amount of *[insert amount in numbers and words and name
of currency]*, as corrected and modified in accordance with the Instructions to Bidders is
hereby accepted by our Agency.

You are requested to furnish (i) the Performance Security within 28 days in accordance with
the Conditions of Contract, using for that purpose one of the Performance Security Forms
and (ii) the additional information on beneficial ownership in accordance with ITB 48.1
within eight (8) Business days using the Beneficial Ownership Disclosure Form, included in
Section X, - Contract Forms, of the Bidding Document.

Authorized Signature: _____

Name and Title of Signatory: _____

Name of Agency: _____

Attachment: Contract Agreement

Contract Agreement

[The successful Bidder shall fill in this form in accordance with the instructions indicated]

THIS AGREEMENT made the *[insert: **number**]* day of *[insert: **month**]*, *[insert: **year**]*.

BETWEEN

- (1) *[insert complete name of Purchaser]*, a *[insert description of type of legal entity, for example, an agency of the Ministry of of the Government of { insert name of Country of Purchaser }, or corporation incorporated under the laws of { insert name of Country of Purchaser }]* and having its principal place of business at *[insert address of Purchaser]* (hereinafter called “the Purchaser”), of the one part, and
- (2) *[insert name of Supplier]*, a corporation incorporated under the laws of *[insert: country of Supplier]* and having its principal place of business at *[insert: address of Supplier]* (hereinafter called “the Supplier”), of the other part:

WHEREAS the Purchaser invited Bids for certain Goods and ancillary services, viz., *[insert brief description of Goods and Services]* and has accepted a Bid by the Supplier for the supply of those Goods and Services

The Purchaser and the Supplier agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other contract documents.
 - (a) the Letter of Acceptance
 - (b) Letter of Bid - Technical Part
 - (c) Letter of Bid - Financial Part
 - (d) the Addenda Nos. _____ (if any)
 - (e) Special Conditions of Contract
 - (f) General Conditions of Contract
 - (g) the Specification (including Schedule of Requirements and Technical Specifications)
 - (h) the completed Schedules (including Price Schedules)
 - (i) any other document listed in GCC as forming part of the Contract

3. In consideration of the payments to be made by the Purchaser to the Supplier as specified in this Agreement, the Supplier hereby covenants with the Purchaser to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of *[insert the name of the Contract governing law country]* on the day, month and year indicated above.

For and on behalf of the Purchaser:

Signed: *[insert signature]*

in the capacity of *[insert title or other appropriate designation]*

in the presence of *[insert identification of official witness]*

For and on behalf of the Supplier:

Signed: *[insert signature of authorized representative(s) of the Supplier]*

in the capacity of *[insert title or other appropriate designation]*

in the presence of *[insert identification of official witness]*

Performance Security

Option 1: (Bank Guarantee)

[The bank, as requested by the successful Bidder, shall fill in this form in accordance with the instructions indicated]

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[insert name and Address of Purchaser]*

Date: *[Insert date of issue]*

PERFORMANCE GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that _ *[insert name of Supplier, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the supply of _ *[insert name of contract and brief description of Goods and related Services]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (_____) *[insert amount in words]*,¹ such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the Day of, 2...², and any demand for payment under it must be received by us at this office indicated above on or before that date.

¹ The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, and denominated either in the currency (ies) of the Contract or a freely convertible currency acceptable to the Beneficiary.

² Insert the date twenty-eight days after the expected completion date as described in GC Clause 18.4. The Purchaser should note that in the event of an extension of this date for completion of the Contract, the Purchaser would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Purchaser might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

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months] [one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

Option 2: Performance Bond

By this Bond *[insert name of Principal]* as Principal (hereinafter called “the Supplier”) and *[insert name of Surety]* as Surety (hereinafter called “the Surety”), are held and firmly bound unto *[insert name of Purchaser]* as Obligee (hereinafter called “the Supplier”) in the amount of *[insert amount in words and figures]*, for the payment of which sum well and truly to be made in the types and proportions of currencies in which the Contract Price is payable, the Supplier and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Supplier has entered into a written Agreement with the Purchaser dated the _____ day of _____, 20 ____, for *[name of contract and brief description of Goods and related Services]* in accordance with the documents, plans, specifications, and amendments thereto, which to the extent herein provided for, are by reference made part hereof and are hereinafter referred to as the Contract.

NOW, THEREFORE, the Condition of this Obligation is such that, if the Supplier shall promptly and faithfully perform the said Contract (including any amendments thereto), then this obligation shall be null and void; otherwise, it shall remain in full force and effect. Whenever the Supplier shall be, and declared by the Purchaser to be, in default under the Contract, the Purchaser having performed the Purchaser’s obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

- (1) complete the Contract in accordance with its terms and conditions; or
- (2) obtain a Bid or Bids from qualified Bidders for submission to the Purchaser for completing the Contract in accordance with its terms and conditions, and upon determination by the Purchaser and the Surety of the lowest responsive Bidder, arrange for a Contract between such Bidder and Purchaser and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the Balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term “Balance of the Contract Price,” as used in this paragraph, shall mean the total amount payable by Purchaser to Supplier under the Contract, less the amount properly paid by Purchaser to the Supplier; or
- (3) pay the Purchaser the amount required by Purchaser to complete the Contract in accordance with its terms and conditions up to a total not exceeding the amount of this Bond.

The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

Any suit under this Bond must be instituted not later than twenty-eight (28) days following the date of completion of the Supplier's performance of its obligations under the Contract, including any warranty obligations.

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Purchaser named herein or the heirs, executors, administrators, successors, and assigns of the Purchaser.

In testimony whereof, the Supplier has hereunto set his hand and affixed his seal, and the Surety has caused these presents to be sealed with his corporate seal duly attested by the signature of his legal representative, this _____ day of _____ 20_____
_____.

SIGNED ON _____ on behalf of _____

By _____ in the capacity of _____

In the presence of _____

SIGNED ON _____ on behalf of _____

By _____ in the capacity of _____

In the presence of _____

Advance Payment Security Demand Guarantee

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[Insert name and Address of Purchaser]*

Date: *[Insert date of issue]*

ADVANCE PAYMENT GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *[insert name of Supplier, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the execution of *[insert name of contract and brief description of Goods and related Services]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum *[insert amount in figures]* () *[insert amount in words]* is to be made against an advance payment guarantee.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (____) *[insert amount in words]*¹ upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:

- (a) has used the advance payment for purposes other than toward delivery of Goods;
or
- (b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

¹ *The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency(ies) of the advance payment as specified in the Contract, or in a freely convertible currency acceptable to the Purchaser.*

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Applicant on its account number *[insert number]* at *[insert name and address of Applicant's bank]*.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, has been certified for payment, or on the *[insert day]* day of *[insert month]*, 2 *[insert year]*, whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No.758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.